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1974 TUNISIAN ACREAGE & LIVESTOCK Enumerative Survey

5 Northern Gouvernorats

VOLUME I

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The survey purposes, procedures, selected results and analyses are presented in this volume. Volume II contains detailed survey tabulations. Both volumes are needed to establish a clear understanding of the information made available by this project.

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1974 TUNISIAN ACREAGE AND LIVESTOCK ENUMERATIVE SURVEY

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INTRODUCTION

The 1974 Tunisian Acreage and Livestock Enumerative Survey (Base Line Study) had its start with the Livestock Project initiated by AID in Tunisia which is aimed at increasing livestock production through an extension program. For their project to be successfully evaluated at its conclusion, AID felt it would be necessary to obtain additional information concerning the current agricultural situation in Tunisia. In particular, they needed a study of farmers having livestock to obtain certain sociological information on the Tunisian livestock producer and the characteristics of livestock operations in the five northern gouvernorats. As the study developed certain other information was deemed necessary and thus the following purposes for the survey evolved:

1. Develop a profile of livestock producers determining such items as the level of education, size of household, amount of hired labor, sources of agricultural information, ability to use agricultural information, etc.

2. Determine land use, the extent of crops complementary to livestock activity, availability of forages and grains for feed, and the extent of crops competitive to livestock such as vegetables, fruits, and food grains.

3. Determine livestock base information including inventories and classification of cattle and sheep.

4. Examine current practices of livestock producers including feeding and grazing practices, housing practices, etc.

In late 1973 the Statistical Reporting Service of U.S. Department of Agriculture was contacted by AID and a tentative project developed. A team of technical consultants consisting of three SRS employees was assigned to the project in January 1974. The team's first work in Tunisia occurred in late January. The bulk of the Tunisian personnel involved in the project was supplied by the National Institute of Statistics. They provided a group of nine technicians to construct the frame and select the sample and approximately 45 people to serve as field enumerators and supervisors. They also provided overall leadership in questionnaire design and conduct of the survey. Other agencies in Tunisia provided input in the scope of the survey, questionnaire development and limited personnel in the actual survey work.

The pretest survey was conducted in early March and provided good results. The actual survey took place in May 1974 with training of field personnel occurring the last week in April. As a result of the excellent cooperation by all personnel connected with the project, a great deal of progress was made.

The capability for constructing and maintaining an area frame was developed in Tunisia. A data collection system was also established which is capable of providing ongoing information concerning agriculture. The sociological and livestock practices data obtained should provide the Livestock Project information on directing their extension program so as to reach the most producers and identify factors which currently limit livestock production. In addition, quantitative data such as inventories of livestock, acreages of crops, etc., could be used in conjunction with future surveys in measuring effectiveness of the Livestock Project.

The data was summarized in the United States on existing computer programs of the Statistical Reporting Service. It is recommended that another project be instituted in the near future to provide the data processing capability to complement the data collection capability Tunisia now has.

METHODOLOGY

The Acreage and Livestock Enumerative Survey in Tunisia used an area sampling frame with the closed segment approach for land use and crops. Both the closed and open segment approaches were used for cattle and sheep information. Livestock practices and other information pertaining to the farm operator were obtained on the open segment approach. The use of the UCP farms (State owned) as a list frame in conjunction with the area frame was considered; however, it was decided not to use a multiframe approach in order to keep the survey procedures as uncomplicated as possible. The use of a list frame, particularly of the large operators, in conjunction with the area frame would probably be beneficial from the standpoint of reducing sampling error and can be instituted at any time. A complete description of pertinent area frame concepts, sample design and estimators used for this survey is presented in Appendix A.

Area Frame Construction and Sample Selection

The construction of an area sampling frame is a major investment that should be amortized over a long period of time and many surveys. Rather than let gradual deterioration of the frame take place after its initial construction, a small staff should be maintained to make revisions in the frame if necessary or helpful. They would also be able to build in improvements based on accumulated experience with the use of the frame. An adequate maintenance program would probably lengthen the efficient life of an area frame by several years. In addition to frame maintenance, the small staff of frame technicians would select and prepare samples as needed.

Therefore, frame construction and sample selection in the five northern gouvernorats of Tunisia had dual purposes of providing an area frame from which the sample for the Acreage and Livestock Enumerative Survey could be selected and introducing the National Institute of Statistics to the methodology employed in constructing and maintaining the resulting frame.

Specifically, the three major objectives accomplished were:

1. construction of an area sampling frame;

2. selection of 28 sample areas, including preparation of aerial photographs and maps for a pretest survey;

3. selection of 400 segments for the regular survey.

The initial phase of constructing an area frame involves collecting mapping materials and defining the parameters of the frame such as strata definitions and segment size. A more precise stratification can normally be accomplished with aerial photography as more features of the topographic characteristics of land are observable. Aerial photography in the required form was not available and therefore the primary materials used in the frame construction were 1922 French topographic maps. These posed some problems in identifying landmarks, but were satisfactory due to the rather stable nature of physical boundaries such as streams, trails, roads, etc.

Four land use strata were distinguished for the five northern gouvernorats of Tunisia. The definitions of the four strata were:

I. Cultivated - All land which has been worked or improved in some manner was included in this stratum. The only exception are those areas where vineyards or orchards were extensive enough to be placed in a separate stratum.

II. Noncultivated - The major component of this stratum was the national forests; it generally consists of either woodland or brush. Mountains which for the most part have little or no vegetation were included. The personal knowledge of the Tunisian staff contributed greatly in each specific decision concerning the inclusion of nonforested land in this stratum.

III. Urban - This stratum consists of intensively populated areas such as cities and villages. Each city or village must have an area of 1/4 square kilometer or more to be included. The topographic maps which were used for stratification were unsatisfactory for delimiting the cities and villages because of their scale and age. Contact photo prints (scaled 1/12,500 and 1/25,000) were ordered for each city or village and used in the stratification process. The latest photography available for this purpose was flown in 1962. It was recognized that the cities and villages may have expanded since the photos were taken. However, these problems may be treated on an individual basis whenever they arise.

IV. Arboriculture - All vine and tree crops specifically designated on the topographic maps were included in the stratum. It was recognized that these may have changed; however, it was determined that circumstances did not permit extensive field work to update the maps. Vineyards and orchards which were known to be cleared were omitted, but no new plantings were included.

After the preceding land use strata definitions were developed, the actual stratification process began. This consisted of segregating the land area on the maps according to the strata definitions using available physical boundaries such as roads, trails, streams, field edges when necessary, etc. After all land area was classified into one of the four strata, each stratum was subdivided into small areas ranging from 1/2 to 30 square kilometers depending on the stratum definition. Each of the smaller areas within strata, referred to as count units, was planimetered to determine its area. Sampling units were assigned to each of the count units by dividing the area of the count unit by the desired area of the sampling unit and rounding the result to the nearest whole number. Sampling unit size was approximately 2 square kilometers for Strata I, II, and IV and 1/16 square kilometer for Stratum III.

The count units were then ordered in a serpentine fashion, starting in the upper right hand corner of each map page, and a listing prepared showing the number of sampling units for each count unit. From this listing samples of count units were selected with probability proportional to the number of sampling units in each. The count units were then subdivided into the assigned number of sampling units. A sampling unit was then randomly selected from those in the selected count unit. The selected sampling unit was the segment to be used in the field enumeration. All segments within a stratum had an equal probability of selection.

At this time enlarged photographs at 1/6,250 or 1/12,500 scale were ordered. Upon receipt of the enlarged photographs the boundaries of the segments were transferred from the maps to the photography. In some instances, it was apparent that the segment was too heavily populated for efficient enumeration and therefore they were again subdivided into equal parts, a random part selected for enumeration and the probability of selection adjusted. Maps showing the segment location, the enlarged photograph for each segment, and plastic grids made to the scale of the photography were then prepared in kits for use by the field enumerators.

The Questionnaire

The questionnaire which was developed for this survey is shown in Appendix E. It was the feeling of most Tunisians working on the project that the bulk of the Tunisian farmers would be hesitant to provide information for a number of reasons, mainly due to fear of how the information would be used. Therefore, the overall philosophy of the questionnaire was not only to obtain data, but to provide an approach whereby the enumerator could gain the confidence of the respondent as he obtained data for the questionnaire. The questionnaire also provided extensive instructions which guided the enumerator in determining which questions were to be asked of each respondent.

The approach which the enumerator was instructed to use was to introduce the purpose of the survey provided on the screening form (Appendix D). The enumerator was then to list the name of the respondent and determine if the respondent qualified for an interview. To qualify for an interview the respondent had to operate land or own livestock. For those not qualified for an interview, the tract of land was considered nonagricultural.

During the process of obtaining the respondent's name, the enumerator showed the enlarged photograph pointing out the land and nearby areas, and asked the respondent to indicate the boundary of the land he operated inside the segment. The use of the aerial photo was not only for a control, and to sketch the fields and tract, but to gain the interest of the respondent. After sketching the tract boundaries and drawing off the fields, the land use was obtained field-by-field in Section A.

The preceding is information that normally the respondent will give rather easily, because it is observable, and at no time would he be asked to report for his total operation. In Section A of the questionnaire, the interest was in obtaining land use as well as crops planted in the fall of '73, or the spring of '74, and meant for harvest during 1974. In addition, the enumerator was instructed to obtain information about the fields that were double cropped, so the total crop acreage for the year would be represented. In the case of interplanted crops, the objective was to determine the amount of cereal, forage, and cash crops interplanted with tree crops.

The enumerator then moved on to Section B, and if there were buildings within the tract boundaries, obtained the area of the building compound, sketched the structures within the compound and obtained information on each building or structure. This section had a two-fold purpose, first to obtain a number of characteristics of the building facilities of livestock producers, and second to provide an easy mechanism for observing livestock that may have been in the buildings at the time of the interview. Also, it was hoped the respondent would report livestock numbers more accurately if the interviewer saw them prior to asking livestock information. Such items as the area of each building, the number of rooms, rings or ties for animals, or whether animals were in the structure at the time of interview were determined. The procedure was to walk through the buildings as the information was obtained on each structure, and in so doing, observe the number of cattle and sheep in each structure.

After completing Section B, the enumerator proceeded to Section C to obtain the number of cattle and calves on the tract at the time of interview. The capability was provided for the respondent to report either on an ownership basis or regardless of ownership. The concept used for counting animals on the tract was to include those that had the right to be on the land at the time of interview regardless of ownership. The respondent was not to attempt to report for animals that might be moving along the roads or grazing in the ditch, adjacent to the tract, at the time

of the interview. For the closed estimate, these animals were to be accounted for in Section I at a later point in the interview. Additional data were obtained concerning whether cattle reported by the respondent were under the supervision of a herder.

Next, the enumerator moved to Section D, considered all sheep on the tract, and basically used the same concepts as were used with cattle. Section E obtained livestock that were not of major importance in this survey such as chickens, goats, horses, mules, and donkeys.

Section F concerned the entire farm and was only to be completed if the farm operator resided within the segment boundaries. When a farm operator resided in the tract, the enumerator sketched all separate parcels of land that made up the farm. A piece of land contiguous to the segment was considered a separate parcel. For each parcel other than the tract, certain major groupings of crops and the numbers of sheep and cattle by classification were determined. After all parcels were listed, the enumerator asked if the respondent, as part of his operation or partnership, owned any cattle or sheep that might be grazing along the roadsides and not reported on the individual parcels. If so, these were recorded in the roadside column.

After completing Section F, the enumerator proceeded to Section G to obtain cattle and sheep practices, if cattle or sheep had been reported earlier in the interview. The practices concerned such items as management of the livestock, diseases, marketing practices, breeding practices, and feeding practices. Information was also collected concerning the methods by which the respondent received agricultural information, his use of agricultural information, etc.

The enumerator then proceeded to Section H, which contained specific characteristics of the farm operator, such as size of family, hired farm labor, mechanization, sources of credit, age, and languages read. At this point, the enumerator was to conclude the interview and complete Section I which involved recording an observed number of cattle or sheep, by fields as well as in the roads adjacent to the tract. The cattle and sheep to be recorded were those observed immediately following the interview. In addition to observing livestock in Section I, the enumerator, to the extent possible, also verified the land use on a field-by-field basis recorded in Section A.

After the enumerator had completed a questionnaire for each tract in the segment, the supervisor completed a field edit consisting of summing the areas of the fields to a tract total, and the tracts to a segment total. The supervisor then compared the reported area to the measured area of the segment. Each major difference between reported and measured (planimetered) area was to be reconciled prior to turning the material into the central office for keypunching. The supervisor also made several consistency checks throughout the questionnaire.

It must be recognized that in each survey there are always some respondents who either are not available for interview or refuse to cooperate in the survey. In this situation the enumerator was to observe the land use and livestock on the tract. He also was to enter on the questionnaire that the respondent was a resident if such were the case. In this situation, the supervisor edited a 9 into the resident farm operator code 400. The value of 9 in code 400 was a signal for the entire farm data to be entered from the first preceding questionnaire which had the entire farm section completed.

Data Collection Procedures

As mentioned earlier the concept the SRS team followed was to develop an organization of trained technicians which would be able to carry on and further develop the area frame sample methodology--after the Acreage and Livestock Enumerative Survey was completed. Another major consideration was developing a trained crew of enumerators and supervisory enumerators which would have the knowledge and expertise to carry on data collection activities for future surveys. Therefore, qualifications and technical aspects of the individual as well as his availability were all factors considered in the assignment of personnel.

A pretest survey was conducted in late February and early March 1974. The enumerators in the pretest survey were to serve as supervisory enumerators in the regular survey due to the training afforded by the pretest experience. A crew consisting of 36 field and nine supervisory enumerators were utilized in the regular survey. The bulk of these personnel came from the National Institute of Statistics. The overall coordinator was Mr. Ayed, under the direction of Mr. Kamoun. The field organization consisted of eleven teams of three field enumerators with each team responsible to a supervisory enumerator. Two cars were available to each of the eleven teams. During the day the supervisor worked back and forth with the three members of his team.

Every effort was to be made to obtain the interview from the operator. In certain instances, where the operator was not available, it was possible to obtain the information from some other well-informed individual, and as a last resort, the information pertaining to the tract could be observed, as noted earlier.

The training school for the regular survey was conducted April 24-27, 1974, with the field work commencing after the close of the training school. The supervisory enumerators received additional training in supervising and managing their teams. For this survey it was determined that the field review would be made by the supervisory enumerators before turning in questionnaires for completed segments to the central office for keypunching. An office review of completed questionnaires was also used.

The survey data were converted into machine media and placed on magnetic tape by the National Institute of Statistics. The magnetic tapes containing the survey data were forwarded to the Statistical Reporting Service in Washington, D. C. where the data were machine edited and summarized.

Summarization

The results of the 1974 Tunisian Acreage and Livestock Enumerative Survey are presented in two parts. Volume II contains the detailed survey tabulations in the following six sections:

A - Estimates and Coefficients of Variation, Specified Items, May 1974
B - Practices of Cattle Operators Classified by Number of Cattle in Operation, May 1974
C - Practices of Sheep Operators Classified by Number of Sheep in Operation, May 1974
D - Cattle Operator and Farm Characteristics Classified by Number of Cattle in Operation, May 1974
E - Sheep Operator and Farm Characteristics Classified by Sheep in Operation, May 1974
F - All Farm Operator and Farm Characteristics Classified by Number of Hectares in Operation, May 1974

This volume, (Volume I) contains selected data and the analysis of the survey. The data item codes in Appendix C, the segment screening form (Appendix D), and the survey questionnaire (Appendix E) provide a framework to show how information from various sections of the questionnaire were summarized.

Information for a resident farm operator was obtained by parcels (separate areas of of land in the same farming operation). The tract (area inside the segment boundary) was considered a parcel. Thus, to obtain totals for the entire farm operation, the data items were summed across parcels. Due to the parcel concept in obtaining entire farm information, the codes provided in Appendix C show some subtotals that in and of themselves have very little meaning and therefore many of these codes do not appear in the tabulations presented in Volume II. Sufficient detail was included in the codes (Appendix C) to document procedures by which data from various portions of the questionnaire were combined. An asterisk to the left of the data code means that the data were generated by the computer from reported information.

Estimates of cattle and sheep were developed for both the tract and entire farms concepts. The cattle and sheep tract portion of the questionnaire (Sections C and D) used the concept that the animals reported by the respondents were those regardless of ownership that had the right to be on the tract at the time of interview. Migratory animals either being grazed or driven along the road were to be accounted for by enumerator observation and recorded in codes 207-209 and 237-239 in Section I of the questionnaire.

The computer was used to develop two separate tract estimates as shown in Appendix F. The first tract estimate was composed of the data reported by the respondent (data item code 250 for cattle and 320 for sheep). The second tract estimate was an adjustment of the reported data with observed roadside animals (data item code 310 for cattle and 344 for sheep).

In situations where the respondent was not available or refused to provide information, the tract data were obtained by observation in Sections A, B and I. The computer then edited the observed livestock data into the reported livestock data as well as into separate data item codes to show the magnitude of nonresponse (codes 295-297 for cattle and 326-328 for sheep). When a resident operator refused to provide information, the first preceding entire farm questionnaire was used in lieu of the refused data for parcels other than the tract. This action was necessary to account for the entire universe of interest.

The measure of precision for individual estimates is provided in terms of the relative standard error normally called the coefficient of variation. The standard error may be obtained by multiplying the estimate by the coefficient of variation. Estimates were computed at the geographic or paper strata level within land use strata. Only the land use strata level of estimates are provided in this report due to the large volume of tabular information. The computer printout on the geographic substrata information within land use strata has been provided to both the AID Mission and the National Institute of Statistics.

SURVEY RESULTS AND ANALYSES

The survey contained four major areas of summarization: Land use, characteristics of all farm operators, cattle, and sheep operations. The following analyses present selected data for these major areas. All data are presented in expanded form which was obtained by multiplying the segment level data by the reciprocal of the probability of selection. Occasionally, data will be quoted which does not appear in the text tables. However, all of the additional data will be found in Volume II.

Land Use

The item "total land in fields" provides an estimate of the total land in the five northern gouvernorats. The survey resulted in a total land in fields of 2,418,677 hectares and a coefficient of variation of 4.7 percent. This figure compares with an expanded planimetered area of 2,492,851 hectares and a measured frame area of 2,634,500 hectares. The difference between expanded planimetered area and measured frame area can be explained by measurement errors as well as sampling errors. The total land reported in fields was approximately 3 percent less than the expanded planimetered area. This difference is normal and is explained by being unable to account adequately for area in the sample segments devoted to streams, ponds, roads which form segment boundaries, etc. The total land in fields, planimetered area and measured frame area are in good agreement considering this was the initial survey from a new land use frame.

The total land use expanded to 2,467,869 hectares, which is slightly more than 2 percent above the total land in fields. For the purposes of this survey, hectares in crops interplanted with tree crops were duplicated or counted twice. Thus, if one were to subtract the duplicated hectarage in interplanted crops from the total land use and subtract 10,791 hectares devoted to farmstead roads, ditches, woods, waste, etc., from land in fields, it would appear the effective land use was approximately 35,000 hectares greater than usable land. The 35,000 hectares represents an estimate of land that was double cropped.

Nearly 28 percent of the total land in fields was reported as fallow or rangeland. This is land that can normally be regarded as available for grazing of livestock. Another 23 percent of the land in fields was classified as forest, woodland, and other non-agricultural land. Thus, in total, 1,248,000 hectares, or slightly more than one-half of all land in fields, were reported in uses other than planted crops.

Cereal crops were the largest single land use reported with approximately 850,500 hectares and a coefficient of variation of 4.7 percent. The leading cereal crops were wheat and barley with 621,000 and 133,566 hectares, respectively. Regular hard wheat at 552,280 hectares accounted for the bulk of the wheat.

Forage crops accounted for 108,300 hectares and specialty crops for 53,290 hectares with coefficients of variation of 7.7 and 6.7 percent, respectively. Gorth was the leading forage crop with 69,150 hectares. Nearly 197,000 hectares were reported in tree crops and vineyards. Of this total, slightly more than 130,000 hectares were devoted to olives and 36,400 hectares were planted to other fruit trees. Approximately 43,300 hectares of cereals and 8,800 hectares of forage and cash crops were interplanted with tree crops. The most common tree crop to be interplanted was olives with 46,270 hectares.

Table 1-- Estimates and coefficients of variation (in percentage) for specified land use items, tract basis, 5 northern gouvernorats total, Tunisia

Description	Item code	Total five gouvernorats	
		Estimated hectares	Coefficient of variation
		Number	Percent
Total land in fields	101	2,418,677	4.7
Hectares irrigated	103	41,612	6.8
Farmstead roads, ditches, woods, waste, ect.	104	10,791	5.8
Land use reported	109	2,467,864	4.7
Fallow	105	418,458	3.6
Rangeland	106	259,036	9.1
Forest and woodland	107	359,919	13.1
Other nonagricultural land	108	210,631	14.7
Total cereal crops	110	850,490	4.6
Total forage crops	120	108,307	7.7
Total tree crops and vineyards	140	196,979	6.7
Total cereal crops interplanted with tree crops	150	43,336	12.2
All forage and cash crops interplanted with tree crops	160	8,808	3.1
Olives interplanted with cereal, forage or cash crops	171	46,269	11.3
Grapes interplanted with cereals, forage, or cash crops	172	457	44.0
Almonds interplanted with cereals, forage, or cash crops	173	1,791	24.4
Citrus interplanted with cereals, forage, or cash crops	174	517	24.5

Characteristics of all Farms and Operators

As mentioned previously, this survey provided both open segment (farm basis) and closed segment (tract basis) estimates of land, tenure, total cereals and forages, and livestock. Experience with area frames has shown the open estimate, based on finding a farm operator residing in the segment, is normally lower than the closed estimate. The most common explanation for the open estimate being lower is the difficulty in defining a resident farm operator. Also, there seems to be a tendency for a farm operator to omit a portion of his land under the open estimate. For these reasons, it is becoming more common for statisticians to recommend the use of the closed segment for all but economic type data.

The open estimate of total land in farms was approximately 1,435,000 hectares with a coefficient of variation of 6.5 percent. This is substantially below the 2,419,000 hectares estimate of total land in fields. However, if one rationalizes that a portion of the closed estimate of land classified as rangeland, forest and woodland, and other non-agricultural land which totaled nearly 830,000 hectares is not truly part of land in farms, then the difference is somewhat less.

Table 2-- Estimates and coefficients of variation (in percentage) of number farm operators, land in farms, tenure and selected crops for all farms, farm basis, 5 northern gouvernorats total, Tunisia

Description	Item code	Total five gouvernorats	
		Estimated hectares	Coefficient of variation
		Number	Percent
Total land in farms	401	1,434,456	6.5
Owned by operator	402	1,011,443	7.8
Rented by operator	403	159,339	26.3
Managed by operator	404	12,260	54.1
Operated under association by operator	405	203,964	21.2
Operated under some other tenure by operator	406	36,188	43.4
Cereals, gorth and all other forages	410	738,111	6.9
Cereals	414	634,506	6.3
Gorth	415	60,560	18.3
All other forages	416	43,046	27.9
Farms operators	400	88,962	6.2
Average parcels per farm	464/400	2.1	

Both the closed and open estimates of land tenure indicate that from 70 to 75 percent of all agricultural land is owned by the operator. The next largest category of land tenure is land operated under association followed by rented land.

The open estimate of cereal crops was 634,500 hectares as compared to the closed estimate 850,500 hectares. Here, one might expect a lower estimate based on the entire farm as the questionnaire asked for all cereals as a group in the entire farm section and for specific cereal crops in the closed or tract portion of the questionnaire. Because of this there may have been some omission due to definitional problems in the entire farm section. The open and closed estimate of all forages at 103,600 and 108,300 hectares, respectively, were in good agreement.

To examine the profile of farmers in Tunisia, selected data were summarized by size of operation. In interpreting this information the user should be aware that the information for each group is not as reliable as for the all groups combined.

Number of hectares in operation	Total five gouvernorats - farm basis					
	Total land in farms	Land tenure				
		Owned	Rented	Managed	Held in association	Other
	Hectares	Percent				
0-1.0	7,505	86.4	2.6	-	1.9	9.1
1.1-4.9	78,319	89.2	4.9	1.1	4.2	1.6
5.0-19.9	307,985	82.4	8.4	4.4	8.1	.7
20.0-49.9	292,579	71.0	13.2	.3	14.0	1.5
50.0-99.9	186,675	80.2	3.5	2.2	12.4	1.7
100.0-199.9	100,867	58.7	2.7	-	20.2	18.4
200.0-499.9	206,044	60.5	18.8	2.9	14.8	3.0
500.0 +	254,476	58.4	17.3	-	24.3	-

When analyzing land tenure by size of farm, it becomes apparent that the smaller farm operators own a larger proportion of the land they operate. Operators with farms under 5.0 hectares in size owned from 86.4 to 89.2 percent of their land. The proportion of the land that was owned by the operator declined as the size of farm increased. Farmers with 100 or more hectares owned from 58.7 to 60.5 percent of their land. The proportion of the land that was rented or held in association increased as the size of farm increased. The proportion of land rented ranged from 2.6 to 18.8 percent while the proportion of land held in association ranged from 1.9 to 24.3 percent. Land managed and land held in other tenure were relatively minor classifications.

The survey indicated there were nearly 89,000 farm operators in the five northern gouvernorats of which approximately 63,900 reported having sheep, cattle or both. The estimated number of farms had a coefficient of variation of 6.2 percent. Of course one must realize that the number of farms vary according to definition. In

this survey anyone having livestock or crops qualified as an operator. However, it is the author's understanding that during the survey period residents living in the city segments and having only 1 or 2 animals were grouped together on a single questionnaire, to the extent that this occurred the number of farms estimate would be biased downward.

Table 3-- Estimates and coefficients of variation (in percentage) of household members, labor, mechanization and credit, housing, farm basis, 5 northern gouvernorats total, Tunisia

Description	Item code	Total five gouvernorats	
		Estimate	Coefficient of variation
		Number	Percent
Farm operators	400	88,962	6.2
Farms with cattle or sheep	427	63,882	5.7
Farmers who used animals as principal source of traction	696	44,240	6.9
Animals used for traction	681	64,386	6.5
Farmers who used machines as principal source of traction	697	44,491	5.0
Farmers who used credit in their farming operation	698	4,588	8.4
Farmers who reported hired workers or intended use of hired workers during 1974	945	15,694	6.3
Full time workers in April 1974	951	35,767	13.6
Temporary workers in April 1974	953	66,507	12.2
Farmers who reported working off farm	944	21,380	5.1
Total farm population	931	645,133	5.8
Average size of household	931/400	7.25	
Family workers including operator (2 or more hours per day on farm)	932	143,712	5.8
Average family workers per farm	932/400	1.62	
Average buildings per farm used for human housing.	906/400	.99	
Average rooms per house	893/897	2.33	
Average area per house (square meters)	909/906	.07	

A total farm population of slightly more than 645,000 was reported. Thus, the average household size reported was 7.3 persons. There was approximately one building used for human housing per farm with an average of 2.3 rooms and 71 square meters in size.

About one-half of the farm operators used animals as their main source of traction. There were 64,390 animals reported as used for the farm operator's main source of traction. This is approximately one and one-half animals per farm using animal traction. Slightly less than an estimated 4600 farm operators used credit in their farming operation. Approximately 24.7 percent reported the use or intended use of hired workers; the survey estimated nearly 35,800 full-time hired workers and 66,500 temporary workers during the month of April. Also there was an average of 1.6 family workers per farm. Nearly 21,400 farmers reported supplementing their income by working off the farm.

The numbers of farms in each size group indicate there were a relatively large percentage of small farms in the five northern gouvernorats. The survey estimated 43,780 farms, or slightly more than 49 percent of all farms, operated less than 5.0 hectares. Also, slightly less than 34 percent of all farms were between 5.0 and 19.9 hectares in size. Thus, approximately 84 percent of all farmers operated less than 20.0 hectares of land. There were slightly more than one percent of the farm operators reporting 200.0 or more hectares of land operated.

Number of hectares in operation	Total five gouvernorats - farm basis			
	Farms	Average household size	Operators who: Were 51 or more years of age	Operators who: Had 9 or more years of school
	Number		Percent	
0-1.0	13,790	6.3	42.3	2.5
1.1-4.9	29,994	6.7	41.1	4.4
5.0-19.9	30,889	7.3	42.4	4.2
20.0-49.9	9,867	8.8	40.7	8.2
50.0-99.9	2,655	9.9	52.3	15.2
100.0-199.9	744	9.6	36.2	18.3
200.0-499.9	706	12.5	40.2	13.9
500.0 +	316	9.2	68.7	31.0

The average household size was fairly well correlated with size of farm. Farmers with less than 1.0 hectare reported an average of 6.3 persons while those with 200.0 to 499.9 hectares reported an average of 12.5 persons.

The age profile of the Tunisian farmer indicates approximately 31 percent were 40 years of age or less, 27 percent were 41 to 50 years of age and 42 percent were 51 or more years of age. By size of farm there appeared no clear cut difference in the proportion of operators 51 years or more of age.

Approximately 72 percent of the farm operators indicated no schooling while about 2 percent reported 11 or more years of formal education. Education was quite well correlated with size of farm. The percentage of the farm operators having 9 or more years of formal education ranged from 2.5 for those with less than 1 hectare of land to 31.0 percent for those with 500.0 or more hectares.

Nearly 8,980 farm operators employed full-time workers during the month of April. As one would suspect, operators in the larger size groups used hired labor more frequently. Approximately one-third of the farm operators with 20.0 or more hectares of land used hired labor. The average number of full-time workers on farms with hired workers ranged from 2.1 for the 5.0-19.9 size group to 19.1 for the 500.0+ size group. This compares with the average for all farms of 4.0 workers. As noted earlier, larger numbers of temporary workers were used by farm operators. The average number of temporary workers was 4.2 for all farms with hired workers. The smaller and larger farms were more likely to use temporary farm workers.

Number of hectares in operations	Total five gouvernorats - farm basis				
	Operators who reported:		Average Family Workers	Average workers on farms with hired workers	
	Working off farm	Employing full time workers in April		Full Time	Temporary
	Number				
0-1.0	6,333	33	1.2	6.0	1.0
1.1-4.9	8,453	974	1.5	2.3	8.6
5.0-19.9	4,607	3,226	1.7	2.1	5.0
20.0-49.9	1,424	2,164	2.1	3.7	6.6
50.0-99.9	464	1,327	2.0	4.3	4.1
100.0-199.9	33	447	1.7	5.7	16.2
500.0-499.9	66	489	3.0	8.5	18.2
500.0 +	-	316	1.8	19.1	32.7

Another important source of labor for the Tunisian farmer came from members of his family. All farms reported an average of 1.6 family members, including the operator, working 2 or more hours per day. By size of operation, average family members working on the farm ranged from 1.2 to 3.0 persons.

For more detail concerning characteristics by size of farm measured in hectares, please refer to Appendix F, Volume II.

Cattle Operations

Inventory

The livestock industry in Tunisia is characterized by many farmers owning small numbers of animals. Many of these animals are attended by a herder and graze the roadsides or other non-agricultural areas; one might term them as migratory. With an area sample, the theory requires that the animals be on the land at the time of interview for the closed estimate (tract basis). Because of this requirement and the migratory nature of a portion of the animals in Tunisia, it was decided in the survey planning stage to observe the number of cattle and sheep as well as ask the respondent to report them. The enumerators were instructed to record the number of cattle and sheep observed in buildings, in fields, and along the roadway.

The observed number of cattle was nearly 569,000 head, of which 98,600 were observed along the road. The reported number of cattle, tract basis, expanded to slightly more than 489,300 head. An adjusted estimate of all cattle was developed in an attempt to account for roadside animals. The procedure used in developing the adjusted estimate has been explained earlier under "Summarization Procedures" and in flow chart form in Appendix F. The survey indication of total cattle adjusted for roadside animals was 585,300 head, which is in good agreement with observed cattle inventory. The data used to develop the adjusted estimate are also shown in detail in Table A-3, Volume II. The coefficient of variation for all cattle ranged from 2.3 percent for the adjusted estimate to 4.1 percent for the tract estimate.

During the editing process, the author noticed some questionnaires where it appeared the respondent was confused about the concept of livestock on the tract at the time of interview. For example, on a few questionnaires where the total tract size was less than 1 hectare, the respondent reported cattle or sheep as being in the tract, that these livestock were under the care of a herder, that they used the ditch as the main source of graze but the enumerator was unable to observe any livestock on the tract. It is possible in these situations, that the farmer reported the livestock incorrect since they were probably not in the tract at the time of interview. If this were so, the closed and adjusted estimates may be biased upward. When this occurred, the reported number was left unchanged, but a special summary code was assigned to measure possible upward bias. The possible upward bias expanded to a total of 14,400 head. If the author's assumption that the cattle should not have been reported in the tract was correct in all cases, then the farmer-reported tract total and adjusted estimate would be approximately 475,000 and 570,900 head, respectively.

As previously mentioned, the closed segment approach utilizes the concept that the livestock must be on the land at the time of interview. In Tunisia, with considerable number of migratory animals, one might suspect that the closed segment may be biased downward somewhat unless the migratory animals are properly accounted for. This is suggested by the agreement of the estimates of observed cattle in tract with reported cattle adjusted for roadside animals. A survey procedure which calls for observing cattle numbers in the tract as well as asking the respondent to report them, is similar to doing two surveys because it sharply increases interview time.

In view of all the considerations outlined above, it is the authors' recommendation for future surveys in Tunisia, to use the tract estimate adjusted for roadside animals. If this recommendation were followed, one would want to make sure the roadside animals observed did not belong to the tract operator.

Table 4-- Estimates and coefficients of variation (in percentage) of cattle, tract basis, 5 northern gouvernorats, total Tunisia

Description	Item code	Total five gouvernorats	
		Estimate	Coefficient of variation
		Number	Percent
Observed cattle	200	568,969	3.4
In buildings	211	292,340	7.6
In fields	212	178,014	10.9
Along roads	213	98,615	10.5
Total cattle reported (tract)	250	489,345	4.1
Cows including bred heifers	251	234.175	3.1
Calves less than 1 year old	252	140,130	5.4
Heifers 1-2 years old	253	33,636	9.9
Bulls and steers for fattening 1-2 years old	254	28,051	17.2
Bulls for breeding	255	10,058	7.5
Other cattle	256	26,777	28.9
Observed cattle other than cows and calves (items 203 and 206) edited into tract when respondent was not available for interview	258	16,517	34.2
Total cattle adjusted for roadside animals (tract)	310	585,294	2.3
Cows	311	287,774	.5
Calves	312	165,193	3.9
All other cattle	313	132,326	7.5

Both the tract and adjusted tract estimates indicate approximately 49 percent of the cattle inventory were cows including bred heifers and 29 percent of the herd were calves. About 6 percent of the inventory were bulls and steers for fattening 1 to 2 years of age, while heifers 1 to 2 years of age accounted for approximately 8 percent of the herd. Occasionally the respondent was not available for interview. In this situation the enumerators were instructed to observe the land use and livestock on the tract. The computer software then edited the observed cows into tract cows (Item 251), calves into tract calves (Item 252), and all other cattle into a computer generated code (258). For the tract classification of cattle to be correct, other cattle observed (code 258) must be prorated to classes other than cows and calves.

Of particular interest was the number of cattle observed in the buildings at the time of interview. Slightly more than 292,300 head, or 52 percent of all cattle observed, were in buildings which indicates an important characteristic of cattle management in Tunisia.

The open estimate, farm basis, of all cattle was nearly 381,000 head with a coefficient of variation of 4.0 percent. This was substantially less than that indicated by the closed estimate, tract basis. The difference between the open and closed estimates of all cattle was greater than can be explained by sampling errors. Either one must rationalize the two estimators are estimating different populations or assume the difference is explained by non-sampling errors.

Table 5--Estimates and coefficients of variation (in percentage) of cattle, farm basis, 5 northern gouvernorats total, Tunisia

Description	Item code	Total five gouvernorats	
		Estimate	Coefficient of variation
		Number	Percent
Cattle farms	423	50,566	5.9
Total cattle (farm)	450	380,962	4.0
Cows	451	185,856	4.1
Calves under 1 year	452	113,204	5.1
Heifers 1-2 years	453	28,880	11.6
Bulls and steers for fattening 1-2 years	454	21,658	15.9
Breeding bulls	455	10,065	9.1
Other cattle	456	21,298	4.4
Ditch cattle (farm)	457	111,791	2.7
Total cattle deaths in 1973 (farm)	461	21,683	26.0
Average area of cattle housing per cattle farm	907/423	21.9	
Tie rings in buildings used for cattle	916	139,981	4.5

Table 6-- Ratio of cattle reported by breed and class, tract basis, 5 northern gouvernorats total, Tunisia

Description	Item code	Total five gouvernorats	
		Ratio	Coefficient of variation 1/
		Percent	Percent
Ratio of purebred cattle to all cattle	291/290	8.7	
Ratio of crossbred cattle to all cattle	292/290	18.1	
Ratio of native cattle to all cattle	293/290	73.2	
Ratio of class to all purebred cattle			
Cows including bred heifers	261/260	32.6	
Calves less than 1 year old	262/260	31.7	
Heifers 1-2 years old	263/260	3.6	
Bulls and steers for fattening 1-2 years old	264/260	7.1	
Bulls for breeding	265/260	1.7	
Other cattle	266/260	23.3	
Ratio of class to all crossbred cattle			
Cows including bred heifers	271/270	47.6	
Calves less than 1 year old	272/270	31.4	
Heifers 1-2 years old	273/270	9.5	
Bulls and steers for fattening 1-2 years old	274/270	8.4	
Bulls for breeding	275/270	2.3	
Other cattle	276/270	.9	
Ratio of class to all native cattle			
Cows including bred heifers	281/280	48.9	
Calves less than 1 year old	282/280	28.3	
Heifers 1-2 years old	283/280	7.8	
Bulls and steers for fattening 1-2 years old	284/280	6.5	
Bulls for breeding	285/280	2.6	
Other cattle	286/280	5.9	

1/ Not available
Non disponible

Apparently, cattle on parcels other than the tract or on the roadside were under-reported. Data which are not part of this report but are provided on computer printout show 45,000 head of cattle reported on parcels other than the tract or along the roadside in the entire farm section of the questionnaire. Also, farm operators reported nearly 111,800 head of ditch cattle and yet only 7,500 as being along the road at the time of the interview. This suggests the possibility of a rather serious downward bias in the open estimate of all cattle.

The classification breakdown of all cattle on the farm basis is similar to the tract basis as one would suspect. The downward bias occurred in all classifications.

The survey indicated a total of 50,566 farm operators had cattle. This is nearly 57 percent of the all farm estimate of 88,962. Cattle operators reported a death rate of 6 percent of all cattle. They also indicated that nearly 30 percent of all cattle used the ditch as the main source of graze. The survey indication of ditch cattle should be considered a minimum as the author noticed some enumerators recorded the data for ditch cattle and sheep as a 1 for yes rather than the actual number. A special computer summary shows, if all the cattle were using the ditch as the main source of graze on the questionnaires improperly coded, an additional 8,000 head should be added to the survey result. If this were done, the survey indication of ditch cattle would be 119,800, or 31 percent of all cattle.

According to cattle farmers, each had an average of 21.7 square meters of cattle housing containing 2.7 tie rings. The survey shows that native cattle make up the largest portion of the cattle herd, accounting for 73 percent of all cattle. Cross-bred and purebred cattle accounted for 18 and 9 percent of all cattle, respectively.

Characteristics of the Cattle Operator

An estimated total of 50,565 operators reported cattle at the time of the interview. Most of the farm operators reporting cattle had from 1-9 head. While farm operators who reported having cattle made up only 57 percent of the number of farm operators, they reported an estimated 80 percent of the land in the five northern gouvernorats. They also accounted for 80 percent of the cereal crops, 94 percent of gorth, and 63 percent of other forages. The larger cattle producers reported having most of the forages. The majority of the cattle operators also had sheep and as a group account for 78 percent of all sheep in the five northern gouvernorats.

Number of cattle in operation	Total five gouvernorats - farm basis			
	Farms	Average household size	Cattle operators who: Were 51 or more years of age	Cattle operators who: Had 9 or more years of school
	Number		Percent	
1-9	41,820	7.6	43.8	4.3
10-29	7,256	9.5	50.0	9.4
30-49	726	10.7	52.1	14.2
50 +	764	9.6	43.7	13.0

The average household size of cattle operators (7.9 persons) was somewhat larger than the average for all farm operators (7.3 persons). The average number of persons in the households of cattle producers ranged from 7.6 persons for those having less than 10 cattle to 10.7 persons for those having 30-49 cattle.

The age distribution of the Tunisian cattle farmer shows that 29 percent were less than 41 years of age, 22 percent 41 to 50 years of age, and 49 percent 51 or more years of age. The 49 percent of the cattle operators 51 years of age and over compares to the similar figure for all farm operators of 42 percent.

An estimated 5 percent of the cattle operators reported having 9 or more years of formal education, while 13 percent reported having 5 or more years. Those reporting no schooling accounted for 70 percent of all cattle producers while the comparable figure for all farm operators was 72 percent. There exists a positive correlation between education and size of herd. The percent of producers with 9 or more years of education ranges from 4.3 percent for those with less than 10 cattle to 14 percent for those with 30-49 cattle.

Approximately 3,710 cattle producers or 7 percent of all cattle operators use credit in their operation. Most of the operators reported their source of credit as the bank. Cattle producers also reported slightly higher use of machines (53 percent) as the principal source of traction than did all farm operators. The larger producers reported use of machines with greater frequency.

Number of cattle in operation	Total five gouvernorats - farm basis					
	Cattle operators who reported:				Av. workers per farm hiring labor	
	Use of credit	Use of machines for principal traction	Working off farm	Employing full-time workers in April	All workers	Livestock workers
	Percent				Number	
1-9	5.2	50.8	19.9	10.2	2.3	.7
10-29	11.7	59.7	17.4	21.3	2.8	1.1
30-49	20.8	82.5	9.1	53.3	11.8	2.8
50 +	63.2	88.9	-	85.5	15.1	2.0

Cattle producers as a group reported smaller incidence of working off the farm as compared with all farm operators. Approximately 19 percent of the cattle producers worked off farm while 24 percent of all farm operators worked off farm. Cattle producers also utilized hired labor to a greater extent than all farm operators. During the month of April, cattle producers used 87 percent of the full-time farm labor force and 74 percent of the temporary farm labor force. All cattle farms averaged 4.0 full-time workers of which 1.0 workers worked on livestock. The average number of full-time workers ranged from 2.3 workers for the size group with 1-9 cattle to 15.1 workers for the 50+ group while the average number of livestock workers ranged from .7 workers for the 1-9 group to 2.8 for the operators with 30-49 cattle. An estimated 11,700 cattle operators, or 23 percent of all cattle operators reported their intentions to use hired labor sometime during 1974.

In analyzing the information media with which cattle producers were familiar, it should be noted that when asked the question an estimated 28,760 did not name any media. It seems unlikely that this many operators would be unaware of any source of information and therefore the results of this question should be used with caution. The most common source of information was the radio which was reported by 30 percent of all cattle operators. The larger producers mentioned the radio more frequently than the smaller producers. Other sources of information were not nearly so prevalent; however, it is interesting to note that an estimated 2400 operators, or 6 percent of all cattle operators, mentioned extension agencies as a source of information.

Number of cattle in operation	Total five gouvernorats - farm basis			
	Cattle operators who reported:			
	Principal information media		Principal livestock information	
	Familiar with radio	Preferred radio	Received feeding and nutrition	Preferred feeding and nutrition
	Percent			
1-9	26.5	13.0	39.5	38.9
10-29	43.8	19.3	44.2	35.2
30-49	50.0	11.5	50.0	-
50 +	54.3	13.0	77.8	60.0

When the cattle producers were asked which source of information they preferred, a large proportion (74 percent) failed to provide an answer. Among those answering, the radio was the preferred medium with nearly 14 percent of all producers. An interesting comparison can be made between the information media with which the cattle producer was familiar and that which he preferred. The radio, television, and newspapers were familiar to 35 percent of the cattle producers but preferred by only 16 percent. Extension agencies, meetings and seminars, and film projections were familiar to 9 percent of the cattle producers but were preferred by 11 percent. It would appear from these data that the extension agencies and the radio would be the best means for providing information to cattle producers.

Only an estimated 4150 or 8 percent of all cattle producers reported receiving livestock raising information. The predominant livestock raising information received concerned feeding and nutrition. Feeding and nutrition was also the livestock raising information most needed and preferred by cattle producers. Forage production appeared to be the only type of livestock raising information which more cattle producers needed or preferred.

An estimated 1570 cattle producers reported contact with farmer assistance projects. The reader is cautioned that because the number of farmers having contact with farmer assistance projects was relatively small, the reliability of the survey data on this item is not as great as on items that were more common among producers. Of the 1570 cattle producers, 35 percent mentioned the livestock project and 27 percent mentioned artificial insemination projects. Other government projects and record

keeping were mentioned by 43 and 16 percent of the 1570 producers, respectively. Most cattle producers felt that the projects with which they had contact were helpful or very helpful in their business.

Number of cattle in operation	Total five gouvernorats - farm basis				
	Cattle operators aware of project	Proportion reported project helpful or very helpful			
		Livestock	Artificial Insemination	Record-keeping	Miscellaneous government projects
	Number	Percent			
1-9	838	86.8	-	-	33.3
10-29	286	70.3	100.0	100.0	100.0
30-49	85	61.2	100.0	100.0	100.0
50 +	363	75.0	78.4	100.0	53.3

Practices

As mentioned previously, an estimated total of 50,565 farm operators had cattle during the survey period. Of this total, 41,820 or nearly 83 percent had less than 10 head and accounted for slightly more than 44 percent of the entire inventory. Slightly more than 14 percent of the cattle farms had from 10-29 head and accounted for 28 percent of the herd. Thus, approximately 97 percent of all cattle operators had less than 30 head of cattle and accounted for 72 percent of the total inventory. The classification of cattle by sex indicated the larger producers had a proportionately greater share of the 1-2 year old stock and breeding bulls. While the producers having 30 or more cattle had 28 percent of the total inventory, they reported 39 percent of the heifers 1-2 years of age, 46 percent of the bulls and steers 1-2 years of age, and 27 percent of the breeding bulls. The producers with fewer cattle also utilized the ditch for their feed supply to a greater extent than did larger operators.

Practically all cattle operators reported using a public market to sell their animals. Only between 2 and 3 percent of the operators mentioned selling of animals privately. The bulk of the producers reported living substantial distances from the market and driving the animals on foot to the market place. Slightly more than 64 percent lived 10-49 kilometers from the market place while another 4 percent lived 50 or more kilometers away. Also 72 percent of all producers reported driving their cattle to market on foot. Approximately one-fourth of the operators used mechanical means to transport their animals to market. The larger operators reported the use of mechanical transportation more frequently than did the smaller operators.

Number of cattle in operation	Total five gouvernorats - farm basis			
	Farms	Cattle	Cattle operators who used:	
			Public market	Mechanical traction to transport animals
	Number		Percent	
1-9	41,820	169,215	100.0	21.6
10-29	7,256	105,555	98.3	38.2
30-49	726	26,627	95.4	41.6
50 +	764	79,561	84.6	43.7

The majority of the operators reported the main source of water for their cattle was a river. Approximately one-fourth of all cattle producers provided water to their cattle by bucket. Only 17 percent reported the use of common watering tank and automatic means. The bulk of the producers reported supplying water twice a day to their cattle during the summer. Approximately 21 percent allowed cattle to have water at will. During the winter season, most operators reduced the frequency of supplying water to cattle to once a day; about 13 percent continued to supply water to cattle at will.

Number cattle in operation	Total five gouvernorats - farm basis					
	Cattle operators who:					
	Provided water at will during:		Fed minerals to:		Fed concentrates to:	
	Summer	Winter	Cows	Fattening cattle	Cows	Fattening cattle
	Percent					
1-9	19.9	12.3	-	-	22.1	37.4
10-29	27.0	12.2	-	-	30.0	64.0
30-49	63.0	53.4	-	-	55.2	83.7
50 +	8.6	8.6	1.3	2.2	48.7	77.8

Approximately 80 percent of the cattle operators answered the cow ration questions. Practically no one reported the use of minerals in their rations while approximately one-fourth reported including concentrates. Of those feeding concentrates to cows, 50 percent fed once a day and 42 percent twice a day. The concentrates most commonly included in the rations were bran and barley. The bulk of the producers reported the use of graze or pasture included in the ration. Hay and green forage were also prominent in the cow rations, with 42 and 26 percent of the operators reporting their use, respectively.

The use of minerals in the rations for fattening cattle was also noticeably lacking. Nearly 48 percent of operators reporting on fattening rations indicated the use of concentrates. Proportionately more of the larger operators tended to include concentrates in their rations. Concentrates were supplied twice a day by approximately 35 percent of the operators using concentrates and 6 percent supplied concentrates three or more times a day. The concentrates most commonly used in the rations were horse beans, bran, and barley. Nearly 62 percent of the rations contained graze or pasture. The use of hay and green forage were reported 45 and 37 percent of the time, respectively.

Slightly less than an estimated 2200 cattle operators utilized artificial insemination. Proportionately more of the larger producers tended to use this method of breeding. Approximately 26,500 producers left the cows with bulls or other cows to detect heat.

Number of cattle in operation	Total five gouvernorats - farm basis				
	Cattle operators who:				
	Used artificial insemination	Had calves bucket-fed	Fed concentrates to calves	Let cows wean calves	Never separated males and females
	Percent				
1-9	1375	2.7	6.2	76.4	82.2
10-29	308	4.4	8.4	75.9	87.2
30-49	170	7.2	28.0	64.9	76.6
50 +	297	13.0	47.5	43.8	61.1

In analyzing the calf feeding practices followed by the Tunisian cattle producer, it was noted that the practice of allowing calves to nurse the cow was particularly prevalent. Approximately 84 percent of the producers followed this practice. Only slightly more than 3 percent of all producers provided milk to calves by bucket exclusively. Approximately 3,800 or 7 percent of the producers fed concentrates to calves. The larger producers were more likely to feed concentrates to calves.

The bulk of the operators, approximately 76 percent, followed the practice of letting the cows wean calves. Of the farmers reporting on this question, an estimated 7200 or 17 percent weaned their calves after 6 months of age and 6 percent between 3 and 6 months of age. The larger operators followed the practice of weaning their calves more often than did the smaller operator.

The Tunisian cattle producer generally does not separate the male and female calves. The survey indicates that slightly more than 82 percent of all producers never separated calves by sex. Only 11 percent of the cattle producers indicated they separated their calves by sex prior to six months of age.

The most prevalent ailment reported by the cattle operators was gastrointestinal pests. A total of 1820 operators, or between 3 to 4 percent of all cattle producers, reported the incidence of gastrointestinal pests. Tuberculosis, anthrax and mammitis were each mentioned by 2 to 3 percent as a principal disease.

Number of cattle in operation	Total five gouvernorats - farm basis				
	Cattle operators who reported:				Cattle Deaths in 1973
	Principal Diseases		Principal use of vet.		
	Gastro-intestinal pests	Tuberculosis	Disease	Other	
	Percent				Number
1-9	3.0	2.0	86.7	10.7	8504
10-29	5.6	5.8	70.4	20.0	10817
30-49	-	9.1	51.1	33.0	467
50 +	13.0	8.6	80.6	14.6	1862

An estimated 13,700 producers reported on the use of veterinary services. Of those producers reporting the use of a veterinarian, 96 percent reported the frequency of veterinary use as less than 6 times during 1973. Approximately 82 percent of the veterinarian visits to cattle producers were to treat diseases.

The reported death rate, defined as total cattle deaths during 1973 divided by the inventory as of the date of the survey, was largest for the producers with 10-29 head. Producers in this size group reported a death rate of 10.3 percent as compared with an overall death rate of 5.7 percent.

Sheep Operations

Inventory

The observed number of sheep expanded to 2,241,500 head with a coefficient of variation of 3.1 percent. Of the total, 219,600 head were observed along the road. The reported number of sheep, tract basis, was 2,269,000 head, while the estimate adjusted for roadside animals resulted in a total of 2,471,000 head. The coefficients of variation for the tract and adjusted estimates were 3.6 and 2.9 percent, respectively.

A special summary code was also developed to measure possible upward bias in the tract estimate in a manner similar to that discussed in the cattle inventory section. For sheep, the possible upward bias expanded to a total of 151,600 head. If the author's assumption that the sheep should not have been reported in the tract was correct in all cases, then the farmer reported tract total and adjusted estimate would be approximately 2,117,300 and 2,319,300 head, respectively. Both figures are in very good agreement with the observed number of sheep. Here again, the author would recommend using the tract estimate adjusted for roadside animals for future surveys in Tunisia.

The classification of the sheep flock on the tract basis indicates that nearly 61 percent were ewes. After adjusting for observed sheep edited into the tract when the respondent was not available for interview, ram and ewe lambs less than 1 year of age accounted for approximately 17 and 16 percent of the flock, respectively.

The survey indicated a total of 45,000 farm operators having sheep. The open, farm basis, estimate of all sheep was slightly more than 1,807,900 head with a coefficient of variation of 4.9 percent. This is substantially less than the closed estimate of 2,269,000 sheep. The analysis of the difference between the farm and tract estimates for sheep is much the same as for cattle and will not be repeated here.

Again, the survey indication of ditch sheep should be considered a minimum due to the coding of ditch sheep by some enumerators as a 1 for yes rather than the actual number. The special computer summary shows that if all the sheep were using the ditch as the main source of graze on the questionnaires that were improperly coded, an additional 34,800 head should be added to the survey result. If this were done the survey indication of ditch sheep would be 405,050 or 22 percent of all sheep.

Table 7--Estimates and coefficients of variation (in percentage) of sheep, (tract and farm basis) 5 northern gouvernorats total, Tunisia

Description	Item code	Total five gouvernorats	
		Estimate	Coefficient of variation
		Number	Percent
Observed sheep (tract)	230	2,241,525	3.1
In buildings	241	711,046	6.9
In fields	242	1,310,896	7.5
Along roads	243	219,581	13.7
Total sheep reported (tract)	320	2,268,997	3.6
Ewes of all ages	321	1,375,234	3.1
Ram lambs less than 1 year old	322	350,123	5.4
Ewe lambs less than 1 year old	323	335,578	9.8
Rams and other sheep	324	63,744	9.6
Observed sheep other than ewes (items 232, 233, 238 and 239) edited into tract when respondent was not available for interview	328	62,592	29.6
Total sheep adjusted for roadside animals (tract)	344	2,470,962	2.9
Ewes	345	1,494,732	2.3
All other sheep	346	976,227	4.6
Sheep farms	425	45,005	4.9
Total sheep (farm)	470	1,807,936	3.9
Ewes of all ages	475	1,108,883	4.0
Ram lambs less than 1 year old	476	323,294	4.9
Ewe lambs less than 1 year old	477	291,177	6.7
Rams and other sheep	478	84,584	11.1
Number of ditch sheep	479	370,253	7.8
Sheep sacrificed by operator last year	495	48,086	3.8
Average area of sheep housing per sheep farm (square meters)	908/425	12.7	

Purebred sheep (Barbarins a grosse queue) accounted for nearly 60 percent of all sheep. Classification by sex indicates the purebred sheep were distributed nearly the same as all sheep.

Table 8--Ratio of sheep reported by breed and class, (tract basis) 5 northern gouvernorats total, Tunisia

Description	Item code	Total five gouvernorats
		Ratio
Ratio of barbarins a grosse queue to all sheep	1/	.59
Ratio of class to all barbarins a grosse queue sheep		
Ewes of all ages	331/330	.61
Ram lambs less than 1 year of age	332/330	.18
Ewe lambs less than 1 year of age	333/330	.18
Rams and other sheep	334/330	.04

1/ 330 ÷ 320 - (326+327+328)

Other Livestock

Livestock other than cattle and sheep were of minor interest in this survey and therefore only minimal data were obtained on them. Chickens of all ages expanded to 1,187,600 on the tract basis. The survey also provided estimates of 432,300 goats and a combined total of 141,650 horses, mules and donkeys.

Characteristics of the Sheep Operator

An estimated 45,000 farm operators reported having sheep during the survey period. This is 51 percent of all farmers in the five northern gouvernorats. The 45,000 sheep producers reported an estimated 77 percent of the total land in all farms. They also accounted for 80 percent of the cereal crops, 76 percent of the hectares in gorth, and 82 percent of other forages. Many of the sheep producers also had cattle and as a group they accounted for 75 percent of the total cattle inventory.

The sheepmen as well as the cattle producers have somewhat larger households than do all farm operators. Sheep producers reported an average household size of 8.0

persons as compared to the all farm average of 7.3 persons. The average household size ranged from 7.3 persons for the operators having 1-19 head to 10.7 persons for the operators having 500 or more sheep.

Number of sheep in operation	Total five gouvernorats - farm basis			
	Farms	Average household size	Sheep operators who: Were 51 or more years of age	Sheep operators who: Had 9 or more years of school
	Number		Percent	
1-19	25,584	7.3	40.9	3.5
20-49	11,488	8.1	52.0	7.1
50-199	6,368	10.0	44.0	9.8
200-499	1,234	9.8	45.8	10.5
500+	330	10.7	30.0	10.0

Approximately 44 percent of all sheep producers were 51 years or more of age. Proportionately more operators with 20-49 sheep were in this age category. The proportion of operators with 9 or more years of school was positively correlated with size of flock and ranged from 3.5 to 10.5 percent.

Approximately 3,220 sheep producers or 7.1 percent of farm operators having sheep reported the use of credit in their operations. The majority of the sheep operators reporting the use of credit mentioned banks as the main source of credit. Most other sources were reported by very few operators. About 52 percent of the sheep operators reported the use of machines in their operation as compared with 50 percent reported by all farm operators as a whole. The larger sheep producers were more likely to report the use of machines than the smaller operators.

Approximately 8,560 sheep producers reported working off farm. This represents 19 percent of all sheep operators. Operators with less than 20 sheep were more likely to work off farm than the larger operators. Also, the sheep producer seemed to utilize hired labor to a greater degree than the average farm operator in general. The approximate 6,300 sheep operators who hired full-time workers in April, reported using two-thirds of the total full-time workers reported by all farm operators. The proportion of the sheep operators reporting the use of full-time workers in April ranged from 7.2 percent of those having 1-19 head to 50.0 percent of those having 500 or more sheep. Sheep producers using full-time workers reported an average of 3.8 workers per farm; an average of 1.2 were classified as livestock workers. By size of operation, the number of workers ranged from 2.8 full-time farm workers of which .7 worked on livestock for the operators with less than 20 head to 19.6 full-time farm workers of whom 2.4 worked on livestock for producers with 500 or more sheep.

An estimated 4,560 sheep producers reported the use of 28,920 temporary workers during April and 9,070 sheep operators reported their intentions to use hired labor sometime during 1974.

Number of sheep in operation	Total five gouvernorats - farm basis					
	Sheep operators who reported:				Av. full-time workers per farm hiring labor	
	Use of credit	Use of machines for principal traction	Working off farm	Employing full-time workers in April	All workers	Livestock workers
	Percent					
1-19	3.8	43.2	23.3	7.2	2.8	.7
20-49	4.8	56.5	14.4	14.8	3.3	1.0
50-199	16.5	72.5	12.8	31.4	3.5	1.4
200-499	24.1	90.5	12.4	41.6	5.4	2.3
500 +	10.0	90.0	-	50.0	19.6	2.4

Considering the information media with which sheep producers were familiar, it should be noted that approximately 25,000 operators provided no answer and as such assumptions based on this data should be made with caution. As was true in the case of cattle operators, the most common source of information mentioned by sheep producers was the radio. About 35 percent of all sheep producers stated the radio was a source of information. While other sources of information were mentioned for less frequently, it is interesting to note that extension agencies were the next most well known source of information.

Number of sheep in operation	Total five gouvernorats - farm basis			
	Sheep operators who reported:			
	Principal information media		Principal livestock information	
	Familiar with radio	Preferred radio	Received feeding and nutrition	Preferred feeding and nutrition
	Percent			
1-19	28.8	11.5	45.6	26.5
20-49	41.8	18.5	55.8	46.7
50-199	45.0	22.4	44.9	39.2
200-499	51.5	26.9	38.4	-
500 +	30.0	10.0	100.0	50.0

Many sheep producers also failed to mention any source of information when asked which they preferred. Approximately 26,700 producers provided no answer to this question. However, the sheep producers who responded to the question reacted in a manner similar to that of cattle producers. A comparison of the media with which sheep producers were familiar and those they preferred showed that the frequency with which radio, television and newspapers were mentioned declined while that of extension agencies, meetings and seminars, and film projections increased.

Only an estimated 3,040 operators, or 7 percent of all sheep producers, indicated they had received livestock raising information. Approximately 1,470 indicated the information concerned feeding and nutrition and approximately 1,120 producers mentioned they were receiving information concerning reproduction. The proportion of sheep producers who said they received various types of information is shown in detail in Table E-6 of Volume II.

When asked which of the types of livestock raising information they preferred, only an estimated 2,700 operators responded. The data indicate more producers desired to receive information concerning construction. Again, for those desiring more detail, please see Table E-7, Volume II.

An estimated 1,120 sheep producers said they were contacted by farmer assistance programs. Again, the reader is cautioned that the number of sheep operators being contacted by farmer assistance programs is relatively small and therefore the survey results should be treated with caution. Of the estimated 1,120 sheep producers who reported contact with farmer assistance projects, approximately 410 mentioned the livestock project, 330 mentioned the artificial insemination project, 250 mentioned record keeping and 540 mentioned other government projects. As was true with cattle producers, most sheep producers associated with farmer assistance projects rated them as being helpful or very helpful.

Number of sheep in operation	Total five gouvernorats - farm basis				
	Sheep operators aware of project	Proportion reported project helpful or very helpful			
		Livestock	Artificial Insemination	Record-keeping	Miscellaneous gouvernment projects
	Number	Percent			
1-19	181	80.0	-	-	-
20-49	236	100.0	-	-	75.0
50-199	501	62.7	100.0	100.0	-
200-499	132	66.7	100.0	100.0	78.2
500 +	66	100.0	62.9	100.0	70.7

Practices

As discussed earlier, an estimated total of 45,000 farm operators reported sheep in their operation. Approximately 25,600 producers, or 57 percent of all sheep operators, reported less than 20 head and 11,500 producers or 26 percent of all sheep

Number of sheep in operation	Total five gouvernorats - farm basis			
			Sheep operators who used:	
	Farms	Sheep	Public Market	Mechanical traction to transport animals
	Number		Percent	
1-19	25,584	246,739	99.1	16.4
20-49	11,488	361,301	99.2	12.5
50-199	6,368	573,693	96.4	28.8
200-499	1,234	361,084	91.5	65.1
500 +	330	265,122	90.0	55.6

producers, reported from 20 to 49 head. The operators with less than 20 head accounted for 14 percent of the total flock, while those with 20-49 head accounted for 20 percent. Thus, producers with less than 50 head of sheep comprised 82 percent of all sheep producers but accounted for only 34 percent of the total flock. The producers with 500 or more sheep reported an average flock size of about 800 sheep.

Practically all sheep producers reported using a public market while only 1 to 2 percent of the operators sold sheep privately. The larger producers reported the use of private sales proportionately more than the smaller producers. As was true with cattle producers, the bulk of the sheepmen lived substantial distances from the market place. Nearly 69 percent lived 10-49 kilometers from the market place and another 2 percent lived 50 or more kilometers away. The majority (74 percent) of the sheep operators drove their animals to market on foot; only about 19 percent used mechanical means to transport their animals to market. Proportionately more of the larger producers had access to mechanical transportation than did the smaller producers.

The major source of water available to sheep was rivers. Approximately 62 percent of the operators utilized the river to supply water while 22 percent provided water to sheep by bucket. Less than one percent provided water to sheep automatically. During the summer the bulk of the sheep operators provided water to their sheep once or twice a day: Approximately 39 percent of the producers watered their sheep once a day and 44 percent twice a day. An estimated 16 percent of the producers provided water at will to their sheep during the summer. This practice was more likely to be followed by the smaller producers.

During the winter season most of the producers who supplied water twice a day to their sheep reduced the frequency to once a day. Those supplying water at will continued to follow the same practice regardless of the season.

Number of sheep in operation	Total five gouvernorats - farm basis			
	Sheep operators who:			
	Provided water at will		Fed Minerals	Fed Concentrates
	Summer	Winter		
	Percent			
1-19	16.1	23.0	-	9.8
20-49	14.7	26.8	-	11.9
50-199	14.6	27.8	-	23.3
200-499	2.6	66.0	-	26.7
500 +	-	-	-	11.1

Approximately 77 percent of all sheep operators responded to the sheep ration question. None reported the use of minerals in rations. Approximately 15 percent reported the use of concentrates. The operators who used concentrates in their rations generally provided them once a day. The concentrates most commonly included in the rations were barley and bran. The bulk of the sheep operators (89 percent) reported graze or pasture as a part of their ration. Hay and green forage were utilized by 28 and 15 percent of the operators, respectively.

Number of Sheep in operation	Total five gouvernorats - farm basis				
	Sheep operators who reported:				
	Principal Diseases		Principal use of vet.		Use of vet. 1 or more times during 1973
	Gastro-intestinal pests	Scabies	Disease	Other	
	Percent				Number
1-19	2.9	2.4	81.7	16.7	20.1
20-49	6.4	7.2	86.2	13.8	24.6
50-199	12.2	9.6	89.5	9.5	18.2
200-499	5.4	7.5	77.2	18.2	31.9
500 +	30.0	10.0	50.0	50.0	50.0

Among the sheep diseases reported by producers, gastrointestinal pests, scabbis, hamra, and sheeppox were reported with approximately the same frequency. Each of these diseases was reported by 3 to 5 percent of all sheep producers. Also, approximately 2 percent of the producers reported enterotoxemia and staggers.

An estimated 11,530 sheep producers reported reasons for having a veterinarian visit their farm during the preceding year. The most prevalent reason given for calling the veterinarian was diseases. The bulk of the sheep producers called the veterinary to their farm five or less times during 1973.

An estimated 39,200 sheep operators reported using either physiological signs or the old ram method to detect ewes in heat. Of this number, nearly 98 percent indicated they used physiological signs. The larger sheep producers were more likely to use the old ram method than the operators with fewer numbers of sheep.

Approximately 55 percent of all sheep producers reported the practice of aiding the ewe in breeding. The larger producers were more likely to follow this practice.

Number of sheep in operation	Total five gouvernorats - farm basis			
	Sheep operators who:			
	Used physiological signs to detect ewes in heat	Aided in Ewe Breeding	Let Ewes Wean Lambs	Never separated males and females
	Percent			Number
1-19	98.9	51.7	59.1	81.0
20-49	97.1	57.9	48.9	93.1
50-199	96.6	55.2	38.2	83.2
200-499	87.5	61.4	31.1	81.6
500 +	80.0	90.0	44.4	100.0

The majority of the sheep producers (approximately 52 percent) followed the practice of letting the ewes wean their lambs. Of those operators who weaned lambs at a specified time, 78 percent weaned at 12 weeks of age or older and 18 percent between 7-12 weeks of age.

Most sheep operators (85 percent) never separated male and female lambs. Of those who did follow the practice of separating lambs by sex, three-fourths did at weaning time.

Summary and Recommendations

The 1974 Tunisian Acreage and Livestock Survey was most successful. Estimates of major items were reasonable and had sampling errors generally ranging from 3 to 6 percent. The expansion of total land agreed with both the measured frame area and the planimetered land area.

Data collection or field interviewing progressed well for the first attempt. The segment size of approximately 2 square kilometers for the cultivated land areas was too large for easy enumeration. This required substantial problem segment activity, which involved splitting the segments to be enumerated into smaller pieces so that the field enumeration could be completed in a reasonable length of time. A segment size of 1 square kilometer probably would be sufficient for the cultivated and arboriculture strata. The scope and size of a survey must be planned within available resources so that the enumeration period does not extend beyond a two or three week period.

For future surveys in Tunisia it would be recommended to use only the adjusted tract estimate for cattle and sheep. This estimate would involve asking the respondent about animals that were on the tract at the time of the interview. In observing migratory animals along the roadsides, the procedure would have to insure that the enumerator did not duplicate animals reported by the respondent with animals observed. There is every indication that the farmer can and will report this livestock accurately if he is clear on the information requested. It is imperative that he fully understands the interviewer wants reported only the animals on the tract at the time of interview.

The data concerning the whole farm or open segment approach generally underestimated the population of interest. Because of the difficulty normally encountered in defining farm operations without duplication or omission, it is recommended that future surveys in Tunisia obtain only economic and sociological data on the farm or open segment basis. All crop hectares and livestock numbers should be obtained on the tract or closed segment basis.

Tunisia now has an active, current data collection capability. In addition, it is recommended that an automated summarization system be installed. The programs or software packages used to summarize this survey could easily be adapted for equipment which will be available in Tunisia in the near future.

Wheat, citrus and olives appear to be the main crops in the five northern gouvernorats. Perhaps it would be possible to develop objective yield surveys for each of these crops. Procedures have been worked out quite well in the United States for wheat and citrus crops and could be installed without much difficulty.

The information provided on livestock practices and the sociological aspects of the Tunisian livestock producer should be valuable to the Livestock Project activities. The interpenetrating sample design is quite flexible and could provide an efficient method to augment the Livestock Project in such a way as to measure the adoption of improved livestock practices and estimate the potential impact among all livestock operators. This could be accomplished by selecting one or two replicates and working with the farms identified during this survey. Over a period of time the Livestock Project could then measure the changes taking place in the replicates with which they were working and contrast these changes with data from replicates used as a control. In this manner they could project the potential of their programs on a sound statistical basis.

APPENDIX A

AREA SAMPLING CONCEPTS, SAMPLE DESIGN AND ESTIMATORS USED IN THE 1974 TUNISIAN ACREAGE AND LIVESTOCK ENUMERATIVE SURVEY

Area Sampling Concepts

The concept of area sampling is relatively simple. The total area to be surveyed is divided into N blocks without any overlap or omission. The aggregation of N blocks is called an area frame. A sample of n blocks is selected for observation and the desired information for the sample blocks may be obtained. The sample estimate of the population total can then be obtained by expanding the sample data by the reciprocal of the probability of selection ($N \div n$). The concept, while relatively simple, at times is rather complex to apply. However, even with the complexity which may arise from time to time, it appears to be the best method to initiate data collection procedures for a country or area given sufficient resources. The concepts and definitions used in the Tunisian area sample were:

1. Sampling Units - The sampling units are the units into which a survey population is divided for sampling purposes. The total of all N sampling units into which a population is subdivided compose a sampling frame in which each individual sampling or frame unit is subject to random selection. In area sampling, segments or small blocks of land are the sampling units. The number of sampling units in a frame or a subset of that frame is determined by dividing the total area by the expected size of the sampling unit.

2. Segment - The sampling unit for area sampling is called a segment, meaning a piece or block of land. The size of a segment can vary according to the requirements of the agricultural information system. The optimal size of the segment will vary by areas and countries depending upon variances and cost relationships. Most experience points towards rather small segments.

3. Reporting Units - Reporting units are the individual elements or units that compose a population for reporting purposes. A reporting unit may be defined in several ways and does not have to coincide with the sampling unit. However, if the reporting unit and sampling unit are not identical, there must be some methodology to associate the two units. In most applications of area sampling for agricultural statistics, reporting units are normally the tract and/or the entire farm.

4. Tract - The tract may be defined as all the land within the boundaries of a block of land or segment that is under the management of one person or partnership. A tract may be part of an entire farm or the entire farm itself. By summing tract information to the segment level one is able to develop segment totals which may be expanded to represent the total population. In most area samples, the tract is the major reporting unit.

5. Entire Farm - The entire farm is normally defined by relating the farm operator or manager uniquely to the land which comprises the farm. To determine if a segment contains a farm operator as a reporting unit a rule for associating the farm operator to the segment must be developed. The rule normally used for this purpose is that the residence of the farm operator or manager must be physically located within the segment boundary.

6. Closed Segment - For the closed segment, the interviewer is to account only for the items of information inside the segment. To avoid omission or duplication

due to the mobility of livestock, the number of livestock must be accounted for at a specified time. It is simplest to set the specified time as the time of the interview for most operating programs. Since land is not mobile the time period is not so critical as with livestock. Normally, the current land use of non-cropland is used while for cropland the definition is crops planted the preceding fall and planted or to be planted in the spring for harvest during the current year. Experience has shown that the closed segment normally works well for crops and land use with the possible exception of speciality crops which may be rare items. It may not work as efficiently for some livestock items due to their concentration which may cause a large variation between segments.

7. Closed Estimate - The closed estimate may now be defined as expanding or multiplying the sum of the tract data at the segment level by the expansion factor which is the reciprocal of the probability of selection. All land in the tract, crops planted and to be planted for harvest during the current year, and livestock on the land at a specified time are unique. A random sample of segments provides a random sample of all types of land in the frame without duplication or omission. It also provides a random sample of all land use and livestock without duplication or omission and as such, the resulting estimates are unbiased.

8. Open Segment - The open segment accounts for land both inside and outside the segment. It may or may not account for all land inside the segment. For the open segment to be unbiased, there must be a method of uniquely associating all land in the population to a specific segment. The open segment is the only practical method of obtaining data which are related entirely to the farm operator or the entire farm such as sociological or economic information. Generally, it is duplication of effort to obtain the same information on the tract and entire farm basis in the same survey. However, there may be special instances where it is warranted.

9. Open Estimates - The open estimate is developed by expanding information obtained on an entire farm basis from resident farm operators by the reciprocal of the probability of selection. The segments when taken together represent all the land in a given area. With a unique method of associating farm operators with land, a random sample of segments provides an unbiased sample of the population of resident farm operators. Therefore, the resulting estimate based on the entire farm is unbiased.

10. Multiframe Estimates - A multiframe estimate is developed by combining the information of two or more frames in such a way that there is no omission or duplication of the total population. The efficiency of the area frame may not be as good as desired if the population of farm operators contains a number of extremely large operations or there are large concentrations of livestock on the land. In this situation it is possible to combine the area frame with a list frame and achieve greater efficiency. In this context the area frame accounts for all farm operators not on the list frame. Operationally, a multiframe estimate can be generated by excluding all operations that are included on the list frame from the area sample and adding to the remaining area sample the results of a list sample. This added capability does present some problems. There must be a clear delineation of population units from the two frames so that each farm operation is accounted for only once.

Sample Design and Estimators

The survey in Tunisia employed a stratified sample with interpenetrating or replicated sampling within strata. The technique consists of drawing r independent samples or replications, where r is greater than or equal to two. Each of the r samples is of size k using the same selection procedures. Under this system the total sample size $n = r \times k$. Systematic selection within each replication was used in Tunisia.

Prior to the sample selection the number of segments for each land use stratum was determined. The allocation is normally determined by considering cost, variance and other survey constraints, but the lack of information on variances resulted in primary consideration being given to cost per unit and experience with similar livestock surveys. After the number of segments were allocated to each land use stratum, the number of replications and the size of each replication was determined so that $n_i = r_i \times k_i$, where n_i was the sample size for the ith stratum, r_i was the number of replicates or independent samples in the ith stratum and k_i was the number of sampling units in each replicate in the ith stratum. With systematic selection the sampling interval was N_i/k_i sampling units. In the area frame the N_i/k_i sampling units were contiguous within strata. These sets of N_i/k_i contiguous sampling units formed small geographic substrata within land use strata. The small geographic substrata are often called paper strata and each has the same total number of segments.

For systematic selection within replication, r_i random numbers were selected in the first paper stratum. Selection of segments in other paper strata was determined by adding a sampling interval to the random number selected in the first paper strata. Sampling in other land use strata was accomplished in a similar manner.

The estimates and variances of the estimators may be obtained by two procedures: 1) by basing the estimates on the replications and 2) by basing the estimates on the paper strata. If the variance is calculated on the deviations between replications there are $(r_i - 1)$ degrees of freedom available for error. Variances calculated on the deviations between segments within paper strata have $k_i\ (r_i - 1)$ degrees of freedom available for error. In either method of calculation the estimate of the population total is the same.

The variance based on paper strata is then actually the variance of a two stage stratified design and takes advantage of the natural geographic stratification occurring within land use strata. The sampling errors shown for the survey were calculated on this basis for ease in looking at small area results. The formulations for the estimators and the sampling errors follow:

The estimator based on replicated systematic samples is:

$$\hat{Y}_1 = \sum_{i=1}^{s} \frac{\sum_{m=1}^{r_i} \hat{Y}_{im}}{r_i} = \sum_{i=1}^{s} \frac{\sum_{m=1}^{r_i} \frac{N_i}{k_i} \sum_{j=1}^{k_i} X_{ijm}}{r_i} = \sum_{i=1}^{s} \frac{N_i}{r_i k_i} \sum_{m=1}^{r_i} \sum_{j=1}^{k_i} X_{ijm} = \sum_{i=1}^{s} \frac{N_i}{n_i} \sum_{m=1}^{r_i} \sum_{j=1}^{k_i} X_{ijm}$$

Where:

$\hat{Y}_{im}$ = estimated total for m^{th} replication in the ith land use stratum,

X_{ijm} = segment total for the mth replication and the jth paper stratum in the ith land use stratum, where $i = 1,2,\ldots,s$: $j = 1,2,\ldots,k_i$; $m = 1,2,\ldots,r_i$;

Also:

N_i = number of segments in the population in the ith land use stratum,

n_i = number of segments allotted to the sample in the ith land use stratum.

r_i = number of replications in the sample for the ith land use stratum,

k_i = number of paper strata in the ith land use stratum.

And:

$$n_i = r_i \times k_i \text{ or } k_i = n_i/r_i$$

The variance is:

$$V(\hat{Y}_1) = \sum_{i=1}^{s} \frac{N_i^2}{r_i} \frac{\sum_{m=1}^{r_i} (\bar{X}_{i.m} - \bar{X}_{i..})^2}{r_i - 1}$$

Where:

$$\bar{X}_{i.m} = \frac{\sum_{j=1}^{k_i} X_{ijm}}{k_i}$$ = mean per segment in the mth replication in the ith land use stratum,

$$\bar{X}_{i..} = \frac{\sum_{j=1}^{k_i} \sum_{m=1}^{r_i} X_{ijm}}{n_i}$$ = mean per segment in the ith land use stratum,

The estimator based on paper strata is:

$$\hat{Y}_2 = \sum_{i=1}^{s} \sum_{j=1}^{k_i} \hat{Y}_{ij} = \sum_{i=1}^{s} \sum_{j=1}^{k_i} \frac{R_i}{r_i} \sum_{m=1}^{r_i} X_{ijm}$$

Where:

$\hat{Y}_{ij}$ = estimated total for the jth paper stratum in the ith land use stratum,

$$R_i = \frac{N_i}{k_i}$$ = total number of possible replications in the population in the ith land use stratum and in the jth paper stratum.

The variance is:

$$V(\hat{Y}_2) = \sum_{i=1}^{s} \frac{R_i^2}{r_i} \frac{\sum_{j=1}^{k_i} \sum_{m=1}^{r_i} (X_{ijm} - \bar{X}_{ij.})^2}{r_i - 1}$$

Where:

$$\bar{X}_{ij.} = \frac{\sum_{m=1}^{r_i} X_{ijm}}{r_i}$$ = mean per segment in the jth paper stratum in the ith land use stratum,

$\hat{Y}_1 = \hat{Y}_2$ since all paper strata have the same number of segments (N_i/k_i) or replications (R_i). $V(\hat{Y}_1)$ is unbiased while $V(\hat{Y}_2)$ may be biased if a periodicity exists between segments in different paper strata. $V(\hat{Y}_2)$ is generally less than $V(\hat{Y}_1)$ when the natural stratification provided by paper strata within land use strata is effective.

The interpenetrating design offers several advantages as it allows the computation of an unbiased estimate of sampling error from the sample data and maintains the ease of the systematic selection technique. Sample dispersion is assured, however, the design gives somewhat less control on the dispersion of segments as compared with a single systematic sample. Another feature of the design is the creation of paper strata which provides geographic stratification within a land use stratification. The design is more flexible than using a systematic sample. It makes reallocation of the sample possible at any time without a complete redraw of the entire sample. Sample rotation which may be desirable because of respondent burden may be varied from stratum to stratum and achieved by deleting complete replications. In an operational program, as the rotation process continues, additional samples will become available to increase sample size of a given survey or create multiple samples simply as a by-product of rotation.

Systematic selection within replication assures large variation within each replication as each replication is composed of one segment from each paper strata. This procedure normally also assures small variation between replications. The number of replications and the sampling units in each replication are related to the total sample size for a particular land use strata since $n_i = r_i \times k_i$. This relationship may, at times, limit the relationship of the number of replications in the sample to the number of paper strata. However, as a rule of thumb, early work related to area sampling using the replicated design within land use stratification indicates that something approximating a square design is near optimum given n_i relatively large.

The following table provides a breakdown of the complete Tunisian sample design:

Stratum	Population units = N_i	Segment size in sq. km.	Number of replications = r_i	Number of paper strata = k_i	Total sample size = n_i
Cultivated (I)	8,998	2	18	15	270
Noncultivated (II)	3,826	2	4	9	36
Urban (III)	2,000	1/16	7	5	35
Arboriculture (IV)	286	2	6	3	18

The number of replications shown in the preceding table may be somewhat larger than necessary. This arises from the fact that initially the total sample size was set at 200. Somewhat later, it was decided to increase the sample size so that more exact information could be obtained for land use at the request of the National Institute of Statistics.

APPENDIX B

DEFINITIONS OF LAND USE STRATA USED IN CONSTRUCTING THE TUNISIAN AREA SAMPLING FRAME IN THE FIVE NORTHERN GOUVERNORATS

I. Cultivated - All land which has been worked or improved in some manner was included in this stratum. The only exception are those areas where vineyards or orchards were extensive enough to be placed in a separate stratum.

II. Noncultivated - The major component of this stratum was the national forests; it generally consists of either woodland or brush. Mountains which for the most part have little or no vegetation were included. The personal knowledge of the Tunisian staff contributed greatly in each specific decision concerning the inclusion of nonforested land in this stratum.

III. Urban - This stratum consists of intensively populated areas such as cities and villages. Each city or village must have an area of 1/4 square kilometer or more to be included. The topographic maps which were used for stratification were unsatisfactory for delimiting the cities and villages because of their scale and age. Contact photo prints (scaled 1/12,500 and 1/25,000) were ordered for each city or village and used in the stratification process. The latest photography available for this purpose was flown in 1962. It was recognized that the cities and villages may have expanded since the photos were taken. However, these problems may be treated on an individual basis whenever they arise.

IV. Arboriculture - All vine and tree crops specifically designated on the topographic maps were included in this stratum. It was recognized that these may have changed; however, it was determined that circumstances did not permit extensive field work to update the maps. Vineyards and orchards which were known to be cleared were omitted, but no new plantings were included.

APPENDIX C

CODES FOR SUMMARIZATION BY QUESTIONNAIRE SECTION, 1974 TUNISIAN ACREAGE AND LIVESTOCK ENUMERATIVE SURVEY

Section A - Hectares of Fields and Crops in Tract

100	Reserved
101	Total hectares in field, item 1
102	Double cropping code, item 3
103	Hectares irrigated, item 4
104	Farmstead roads, ditches, woods, waste, etc., item 5
105	Fallow, item 18
106	Rangeland, item 24
107	Forest and woodland, item 25
108	Other nonagricultural land, item 26
* 109	Total land use reported in tract, Σ(105-108, 110, 120, 130, 140)
* 110	Total cereal crops, Σ(111-117)
111	Regular hard wheat, item 6(a)
112	Regular soft wheat, item 6(b)
113	High yielding wheat, item 6(c)
114	Oats, item 7
115	Barley, item 8
116	Fava beans and horse beans, item 9
117	Peas, item 10
118	Reserved
* 119	Total wheat, Σ(111-113)
* 120	Total forage crops, Σ(121-125)
121	Perennial forages (alfalfa, clover, sulla, fescue) item 11
122	Gorth, item 12
123	Forages cut green (barley, oats, fenu-grec, etc.)
124	Forage, small bushes, etc., item 14
125	Corn, sudan grass, sorghum, fenu-grec, item 15
126-129	Reserved
* 130	Total specialty crops, Σ(131-132)
131	Cash crops, item 16
132	Other crops, item 17
133-139	Reserved
* 140	Total tree crops and vineyards, Σ(141-145)
141	Olives, item 19
142	Grapes, item 20
143	Almonds, item 21
144	Citrus, item 22
145	All other fruit trees including mixed fruit crops, item 23
146-149	Reserved
* 150	Total cereal crops interplanted with tree crops, Σ(151-157)
151	Regular hard wheat interplanted with tree crops
152	Regular soft wheat interplanted with tree crops
153	High yielding wheat interplanted with tree crops
154	Oats interplanted with tree crops
155	Barley interplanted with tree crops
156	Fava and horse beans interplanted with tree crops
157	Chick peas interplanted with tree crops
* 158	All wheat interplanted with tree crops Σ(151-153)
159	Reserved
* 160	All forage and cash crops interplanted with tree crops Σ(161-166)
161	Perennial forages interplanted with tree crops

Section A - Hectares of Fields and Crops in Tract-(Continued)

162	Gorth interplanted with tree crops
163	Forage cut green interplanted with tree crops
164	Forage, small bushes, etc., interplanted with tree crops
165	Corn, sudan grass, sorghum, fenu-grec interplanted with tree crops
166	Cash crops interplanted with tree crops
167-170	Reserved
171	Olives interplanted with cereal, forage or cash crops
172-180	Reserved
181	Tract hectares owned
182	Tract hectares rented
183	Tract hectares managed
184	Tract hectares under associations
185	Tract hectares under other tenure
* 186	Land edited into other tenure consisting mostly of nonagricultural land reported in control questionnaire
187-199	Reserved

Section B and Section I - Observed Livestock in Tract

* 200	Observed cattle in tract Σ(201-209)
201	Observed cows in complex of buildings
202	Observed calves in complex of buildings
203	Observed other cattle in complex of buildings
204	Observed cows in fields
205	Observed calves in fields
206	Observed other cattle in fields
207	Observed cows along road
208	Observed calves along road
209	Observed other cattle along road
210	Reserved
* 211	Observed cattle in complex of buildings Σ(201-203)
* 212	Observed cattle in fields Σ(204-206)
* 213	Observed cattle along road Σ(207-209)
214-229	Reserved
* 230	Observed sheep in tract Σ(231-239)
231	Observed ewes in complex of buildings
232	Observed lambs in complex of buildings
233	Observed other sheep in complex of buildings
234	Observed ewes in field
235	Observed lambs in field
236	Observed other sheep in field
237	Observed ewes along road
238	Observed lambs along road
239	Observed other sheep along road
240	Reserved
* 241	Observed sheep in complex of buildings Σ(231-233)
* 242	Observed sheep in field Σ(234-236)
* 243	Observed sheep along road Σ(237-239)
244-249	Reserved

Section C - All Cattle and Calves on Tract

* 250	Total cattle reported in tract Σ(251-256, 258)
251	Cows including bred heifers, item 2(a)

Section C - All Cattle and Calves on Tract-(Continued)

252	Calves less than 1 year old, item 2(b)
253	Heifers, 1-2 years old, item 2(c)
254	Bulls and steers for fattening, 1-2 years old, item 2(d)
255	Bulls for breeding, item 2(e)
256	Other cattle, item 2(f)
257	Total cattle reported in tract, item 2(g)
* 258	Observed number of all other cattle (items 203 and 206) edited into tract when respondent was not available for interview
259	Reserved
* 260	Total purebred cattle Σ(261-266)
261	Purebred cows including bred heifers, item 2(a)
262	Purebred calves less than 1 year old, item 2(b)
263	Purebred heifers, 1-2 years old, item 2(c)
264	Purebred bulls and steers for fattening, 1-2 years old, item 2(d)
265	Purebred bulls for breeding, item 2(e)
266	Purebred other cattle, item 2(f)
267	Yes or no code for cattle under supervision of herder, item 6
268	Cattle reported along tract roadsides at time of interview, item 7
269	Reserved
* 270	Total crossbred cattle Σ(271-276)
271	Crossbred cows including bred heifers, item 2(a)
272	Crossbred calves less than 1 year old, item 2(b)
273	Crossbred heifers, 1-2 years old, item 2(c)
274	Crossbred bulls and steers for fattening, 1-2 years old, item 2(d)
275	Crossbred bulls for breeding, item 2(e)
276	Crossbred other cattle, item 2(f)
277-279	Reserved
* 280	Total native cattle Σ(281-286)
281	Native cows including bred heifers, item 2(a)
282	Native calves less than 1 year old, item 2(b)
283	Native heifers, 1-2 years old, item 2(c)
284	Native bulls and steers for fattening, 1-2 years old, item 2(d)
285	Native bulls for breeding, item 2(e)
286	Native other cattle, item 2(f)
287-289	Reserved
* 290	Total cattle reported by breed in tract Σ(291-293)
* 291	Total purebred cattle reported in tract (also code 260)
* 292	Total crossbred cattle reported in tract (also code 270)
* 293	Total native cattle reported in tract (also code 280)
* 294	Total observed cattle edited into tract cattle due to respondent not available for interview, Σ(295-297)
* 295	Observed cows edited into tract cows due to respondent not available for interview
* 296	Observed calves edited into tract calves due to respondent not available for interview
* 297	All other cattle edited into tract due to respondent not available for interview (also code 258)
* 298	Number of tract respondents having cattle and not available for interview
299	Reserved
* 300	All cattle observed along road when reported cattle were zero or equaled observed tract cattle, Σ(301-303, 305-307)
* 301	Cows of all ages observed along road when no cattle reported in tract
* 302	Calves observed along road when no cattle reported in tract

Section C - All Cattle and Calves on Tract-(Continued)

* 303	All other cattle observed along road when no cattle reported in tract
* 304	Number of times tract had no cattle but cattle were observed along roads bordering tract
* 305	Cows observed along road when reported tract cattle equaled observed tract cattle
* 306	Calves observed along road when reported tract cattle equaled observed tract cattle
* 307	All other cattle observed along road when reported tract cattle equaled observed tract cattle
* 308	Number of times reported tract cattle equaled observed tract cattle and cattle were also observed along road
309	Reserved
* 310	All cattle in tract adjusted for roadside animals Σ(311-313)
* 311	Cows in tract adjusted for roadside animals (251+301+305)
* 312	Calves in tract adjusted for roadside animals (252+302+306)
* 313	All other cattle in tract adjusted for roadside animals Σ(253-256+258+303+307)
314-319	Reserved

Section D and Section E - All Sheep, Poultry and Other Livestock on Tract

* 320	Total sheep Σ(321-324, 327-328)
321	Ewes of all ages, item 2(a)
322	Ram lambs less than 1 year of age, item 2(b)
323	Ewe lambs less than 1 year of age, item 2(c)
324	Rams and other sheep, item 2(d)
325	Total sheep reported in tract, item 2(e)
* 326	Observed ewes edited into tract due to respondent not available for interview
* 327	Observed lambs edited into tract due to respondent not available for interview
* 328	Observed other sheep edited into tract due to respondent not available for interview
* 329	Number of tract respondents who had sheep not available for interview
* 330	Total barbarins a grosse queue Σ(331-334)
331	Barbarins grosse queue ewes of all ages, item 2(a)
332	Barbarins a grosse queue ram lambs less than 1 year of age, item 2(b)
333	Barbarins a grosse queue ewe lambs less than 1 year of age, item 2(c)
334	Barbarins a grosse queue rams and other sheep, item 2(d)
335	Yes or no code for sheep under supervision of herder, item 5
336	Sheep reported along tract roadsides at time of interview
* 337	Ewes observed along road when reported sheep were zero or equaled observed tract sheep
* 338	All other sheep observed along road when reported sheep were zero or equaled observed tract sheep
* 339	Number of times reported sheep were zero or equaled observed tract sheep and sheep were observed along road
340	Reserved
341	Chickens of all ages, item 1
342	Goats of all ages, item 2
343	Horses, mules and donkeys of all ages, item 3
* 344	All sheep in tract adjusted for roadside animals (345+346)

Section D and Section E - All Sheep, Poultry and Other Livestock on Tract (Continued)

* 345	Ewes in tract adjusted for roadside animals (321+337)
* 346	All other sheep in tract adjusted for roadside animals Σ(322-324+327+328+338)
347-349	Reserved

Section F - Entire Farm Information for Resident Farmers

350	Number of parcels in addition to tract
351-365	Tenure of land by parcel; 1 = owned, 2 = rented, 3 = managed, 4 = association, 5 = other; item 1
366-370	Reserved
371-385	Number of hectares by parcel, item 2
386-399	Reserved
400	Resident farm operator code
* 401	Total land in farms Σ(101, 371-385) when 400>0
* 402	Land that was owned by operator
* 403	Land that was rented by operator
* 404	Land that was managed by operator
* 405	Land that was operated under association
* 406	Land that was operated under some other tenure
407-409	Reserved
410	Land in cereals, gorth, and all other forages Σ(111-117, 121-125, 411-413) when 400>0
411	Land in cereals on parcels other than tract, item 3(a)
412	Land in gorth on parcels other than tract, item 3(b)
413	Land in all other forages on parcels other than tract, item 3(c)
* 414	Land in cereals, Σ(111-117, 411) if 400>0
* 415	Land in gorth, Σ(122, 412) if 400>0
* 416	Land in all other forages, Σ(121, 123-125, 413) if 400>0
* 417	Land in forages, Σ(121-125, 412, 413) when 400>0
418-420	Reserved
* 421	Number of cattle farms with no sheep
* 422	Number of cattle farms with sheep
* 423	Number of cattle farms
* 424	Number of sheep farms with no cattle
* 425	Number of sheep farms
* 426	Number of farms with no sheep or cattle
* 427	Number of farms with cattle or sheep
428-429	Reserved
430	All cattle on parcels excluding tract Σ(431-436)
431	Cows including bred heifers, on parcels excluding tract, item 4(a)
432	Calves less than one year, on parcels excluding tract, item 4(b)
433	Heifers, 1-2 years, on parcels excluding tract, item 4(c)
434	Bulls and steers for fattening, 1-2 years, on parcels excluding tract, item 4(d)
435	Bulls for breeding, on parcels excluding tract, item 4(e)
436	Other cattle, on parcels excluding tract, item 4(f)
437	Total cattle reported on parcels excluding tract
438-439	Reserved
* 440	All cattle not included on parcels operated but reported along road Σ(441-446)
441	Cows not included on parcels operated but reported along road, item 4(a)

Section F - Entire Farm Information for Resident Farmers-(Continued)

442	Calves less than 1 year, not included on parcels operated but reported along road, item 4(b)
443	Heifers, 1-2 years, not included on parcels operated but reported along road, item 4(c)
444	Bulls and steers for fattening, 1-2 years, not included on parcels operated but reported along road, item 4(d)
445	Bulls for breeding not included on parcels operated but reported along road, item 4(e)
446	Other cattle not included on parcels operated but reported along road, item 4(f)
447	Total cattle not included on parcels operated but reported along road
448-449	Reserved
* 450	All cattle (open) Σ(251-256, 258, 431-436, 441-446) when 400>0
* 451	All cows (open) Σ(251, 431, 441)
* 452	All calves < 1 year (open) Σ(252, 432, 442)
* 453	Heifers, 1-2 years (open) Σ(253, 433, 443)
* 454	Bulls and steers for fattening, 1-2 years (open) Σ(254, 434, 444)
* 455	Breeding bulls (open) Σ(255, 435, 445)
* 456	Other cattle (open) Σ(256, 258, 436, 446)
457	Number of ditch cattle, Section G, item 1
458	Number of cattle that died, Section G, item 11
459	Number of calves that died, Section G, item 11
* 460	Number of farm operators (400)
* 461	Total cattle deaths, Σ(458, 459)
* 462	Age of operator (691)
* 463	Number of years of school (692)
* 464	Number of parcels in farms
465-469	Reserved
* 470	All sheep (open) Σ(321-324, 327-328, 471-474, 481-484) when 400>0
471	Ewes of all ages, item 5(a)
472	Ram lambs <1 year
473	Ewe lambs <1 year
474	Rams and other sheep, item 5(d)
* 475	All ewes this year (open) Σ(321, 471, 481)
* 476	All ram lambs this year (open) Σ(322, 472, 482)
* 477	All ewe lambs this year (open) Σ(323, 473, 483)
* 478	All rams and other sheep this year (open) Σ(324, 474, 484, 327-328)
479	Number of ditch sheep, Section G, item 1
* 480	All sheep reported along road Σ(481-484)
481	Ewes not included in parcels but reported along road, item 5(a)
482	Ram lambs less than 1 year, not included in parcels but reported along road, item 5(b)
483	Ewe lambs less than 1 year, not included in parcels but reported along road, item 5(c)
484	Rams and other sheep not included in parcels but reported along road, item 5(d)
485-489	Reserved
* 490	All sheep sacrificed last year, Σ(495-496)
* 491	Observed ewes in tract when resident farm operator not available for interview (326 when 400>0)
492	Observed lambs in tract when resident farm operator not available for interview (327 when 400>0)
* 493	Observed all other sheep in tract when resident farm operator not available for interview (328 when 400>0)

Section F - Entire Farm Information for Resident Farmers-(Continued)

494	Reserved
495	Sheep sacrificed last year by operators
496	Sheep sold to be sacrificed last year
497-500	Reserved

Section G - Cattle and Sheep Practices

501-505	Number of farmers who used various cattle practices, items 1-5
506	Reserved
507-508	Number of farmers who used various cattle practices, items 6-7
509	Reserved
510	Number of farmers who used various cattle practices, item 8
511	Reserved
512-513	Number of farmers who used various cattle practices, items 9-10
514-515	Reserved
516-523	Number of farmers who reported various cattle diseases, item 13
524	Reserved
525-528	Number of farmers who reported various cattle practices, items 15-18
529-540	Reserved
541-545	Number of farmers who used various sheep practices, items 1-5
546	Reserved
547	Number of farmers who used various sheep practices, item 6
548	Reserved
549	Number of farmers who used various sheep practices, item 7
550	Reserved
551-553	Number of farmers who used various sheep practices, items 8-10
554-559	Number of farmers who reported various sheep diseases, item 13
560-561	Number of farmers who used various sheep practices, items 19-20
562-569	Reserved
570-580	Number of farmers who used various feedstuffs in rations for cows, item 14
581-591	Number of farmers who used various feedstuffs in rations for fattening cattle, item 14
592-602	Number of farmers who used various feedstuffs in rations for sheep, item 14
603-609	Reserved
610-618	Number of farmers who knew various means of obtaining information, item 23
619	Reserved
620-628	Number of farmers who stated preference for specific means of obtaining information concerning livestock, item 24
629	Reserved
630-639	Number of farmers who received specific information concerning livestock raising, item 25
640-649	Number of farmers who stated preferences for specific information concerning livestock raising, item 26
650-653	Number of farmers contacted by specific livestock projects, item 27
654-657	Number of farmers who rated the livestock projects as very helpful, helpful, not helpful, item 28
658-660	Reserved
661	Farmers who had silos, yes-no code, item 12
662	Farmers who had sheep dip facilities, yes-no code, item 12
663	Farmers who had urin pit facilities, yes-no code, item 12
664-679	Reserved

Section H - Labor, Mechanization, Credit

680	Means of traction, code, item 7
681	Number of animals used for traction
682	Credit use code, item 8
683-689	Number of farmers who used various sources of credit, item 9
690	Availability of seed code, item 10
691	Age of operator
692	Number of years of school
693	Number of operators who read Arabic
694	Number of operators who read French
695	Number of operators who read other languages
* 696	Number of farmers who used animals as principle source of traction
* 697	Number of farmers who used machines as principle source of traction
* 698	Number of farmers who used credit in their farming operation
* 699	Number of farmers not able to obtain enough seed
700-799	Reserved

Section B - Building Complex or Farmstead

800-886	Individual Cells (see questionnaire), characteristics of structures
887	Tie rings in pens
888	Reserved
* 891	Rooms in cattle housing
* 892	Rooms in sheep housing
* 893	Rooms in human housing
* 894	Rooms in buildings used for all other purposes
* 895	Buildings used for cattle housing
* 896	Buildings used for sheep housing
* 897	Buildings used for human housing
* 898	Buildings used for all other purposes
* 900	Number of farm operators (400)
* 901	Buildings used for crops
* 902	Buildings used for equipment
* 903	Buildings used for cattle housing (895)
* 904	Buildings used for sheep housing (896)
* 905	Buildings used for other purposes (898)
* 906	Buildings used for human housing (897)
* 907	Area of cattle housing
* 908	Area of sheep housing
* 909	Area of human housing
* 910	Number of cattle and sheep operators (427)
* 911	Buildings used for cattle with livestock in them at time of interview
* 912	Buildings used for sheep with livestock in them at time of interview
* 913	Buildings used for humans with livestock in them at time of interview
* 914	All other buildings with livestock in them at time of interview
* 915	Buildings with livestock at time of interview Σ(911-914)
* 916	Tie rings in buildings used for cattle
* 917	Tie rings in buildings used for sheep
* 918	Tie rings in buildings for all other purposes
* 919	Total tie rings in all buildings Σ(916-918)
920	Reserved
* 921	Building with cattle or sheep in them at time of interview

922	Reserved
* 923	Farms with cattle or sheep in buildings or pens at time of interview
* 924	Tie rings in pens (887)
925-929	Reserved

Section H - Labor, Mechanization, Credit

* 930	Number of farm operators (400)
931	Number of family members who lived in operator's household, item 1
932	Number of family members including operator who worked more than two hours per day on farm, item 2
933	Off farm work code, item 3
934	Farm worker hiring code, item 4
935	Number of full time men workers during April 1974
936	Number of full time women workers during April 1974
937	Number of full time men livestock workers during April 1974
938	Number of full time women livestock workers during April 1974
939	Number of temporary men workers during April 1974
* 940	Number of farm operators (400)
941	Number of temporary women workers during April 1974
942	Number of days temporary men workers worked during April 1974
943	Number of days temporary women workers worked during April 1974
* 944	Number of farmers who reported working off farm
* 945	Number of farmers who reported hired workers or intended use of hired workers during 1974
* 946	Number of farmers who reported full time workers during April 1974
* 947	Number of farmers who reported full time livestock workers during April 1974
* 948	Number of farmers who reported temporaty workers during April 1974
949	Reserved
* 950	Number of farm operators who reported labor (*945)
* 951	Number of full time workers in April Σ(935, 936)
* 952	Number of full time livestock workers in April Σ(937, 938)
* 953	Number of temporary workers in April Σ(939, 941)
* 954	Number of days temporary workers worked Σ(942,943)
955-979	Reserved

Other Codes

980	Reserved
981	Cattle size code
982	Sheep size code
983	Size of farm size code
984	Expansion factor
985-999	Reserved
172 1/	Grapes interplanted with cereals, forage, or cash crops
173 1/	Almonds interplanted with cereals, forage, or cash crops
174 1/	Citrus interplanted with cereals, forage, or cash crops

* Computer generated data items, not asked on questionnaire

1/ Codes 172-174 were added later at the request of the Tunisian National Institute of Statistics

APPENDIX D

SEGMENT SCREENING FORM

Gouvernorat	Replicate-Strata	Segment

1974 TUNISIAN ACREAGE & LIVESTOCK Enumerative Survey

Municipality: _____

A – 01	Q – 17
B – 02	R – 18
C – 03	S – 19
D – 04	T – 20
E – 05	U – 21
F – 06	V – 22
G – 07	W – 23
H – 08	X – 24
I – 09	Y – 25
J – 10	Z – 26
K – 11	AA – 27
L – 12	BB – 28
M – 13	CC – 29
N – 14	DD – 30
O – 15	EE – 31
P – 16	etc.

IDENTIFICATION SHEET

SURVEY PURPOSE: To determine the current crop and livestock practices, land use and building structures to better understand Tunisian farmers as a means of developing agricultural programs to increase crop and livestock productivity. A new extension program will be developed for each Gouvernorat based on the information learned in this survey. We would appreciate your assistance in this effort.

OFFICE USE
R.A.
P.A.
R.A./P.A.

PART _____ OF _____

ENUMERATOR CHECK LIST: *Complete this check list when enumeration of segment is completed.*

1. Total tract codes listed in Column 1, Page 2 ..... [ ]
2. Number of tract codes listed on photo or map ..... [ ]

   Items 1 and 2 must agree.

3. Number of questionnaires completed..... _____
4. Number of Non-Farm tracts (Entries in Col.10) . _____
5. Total of items 3 + 4 equals ..... [ ]

   Item 5 must agree with items 1 and 2.

VISITS TO SEGMENT	
Month	Day

Comment on any enumerating problems caused by segment boundaries, split fields, aerial photo coverage, etc.

_____

_____

_____

_____

_____

Enumerator's Signature _____

OFFICE USE	DATE	INITIALS
Received		
1st EDIT		
2nd EDIT		
3rd EDIT		
Keypunched		
Mailed from SSO		

Part I.D.-1

TRACT VERIFICATION				TRACT OPERATOR IDENTIFICATION
TRACT	*Verify tract boundaries and draw off land operated* (Check)	Is any land within blue line operated by someone else?	Are there any other persons living in this household who operate a farm or ranch?	For the Person in Charge of this tract, *Line 1 – Full Name (Last, first, middle initial)* *Line 2 – Complete Mailing Address*
LAND WITH OCCUPIED DWELLING IN SEGMENT				
1	2	3	3a	4
		☐ No → ↙ Yes ☐	☐ No → ↙ Yes ☐	
		☐ No → ↙ Yes ☐	☐ No → ↙ Yes ☐	
		☐ No → ↙ Yes ☐	☐ No → ↙ Yes ☐	
		☐ No → ↙ Yes ☐	☐ No → ↙ Yes ☐	
		☐ No → Yes ☐ *Use additional Part I.D.*	☐ No → Yes ☐ *Use additional Part I.D.*	
LAND WITHOUT OCCUPIED DWELLING IN SEGMENT				
		☐ No → ↙ Yes ☐		
		☐ No → ↙ Yes ☐		
		☐ No → ↙ Yes ☐		
		☐ No → ↙ Yes ☐		
		☐ No → ↙ Yes ☐		
		☐ No → ↙ Yes ☐		
		☐ No → Yes ☐ *Use additional Part I.D.*		

ENTIRE FARM INFORMATION FOR PERSON LISTED IN COLUMN 4				NON-AGRICULTURAL TRACTS		
Do you operate a farm or ranch at any location?	Will you grow any crops this year?	Do you have or expect to have any livestock or poultry this year?	Will anyone else have any livestock or poultry on the land you operate this year?	OFFICE USE Tract Code	How many hectares are in this tract ?	LAND USE *Describe. Do not complete survey.*
5	6	7	8	9	10	11
☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →		101 . 108 .	*House &*
☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →		101 . 108 .	*House &*
☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →		101 . 108 .	*House &*
☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →		101 . 108 .	*House &*
☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →		101 . 108 .	*House &*
☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →		101 . 108 .	
☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →		101 . 108 .	
☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →		101 . 108 .	
☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →		101 . 108 .	
☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →		101 . 108 .	
☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →		101 . 108 .	
☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →		101 . 108 .	
☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →	☐ *Yes –Survey* ☐ *No* →		101 . 108 .	

APPENDIX E
SURVEY QUESTIONNAIRE

Country	Land Use	Paper Strata	Segment	Tract

1974 TUNISIAN ACREAGE & LIVESTOCK Enumerative Survey

Facts about your farm or ranch will be kept CONFIDENTIAL and used only in combination with similar reports from other producers.

Segment Number: _____ Tract Code Letter: _____ Omda: _____

Name of Operator: _____
(Last) *(First)* *(Middle Initial)*

Address: _____
(Route or Street) *(City)* *(Gouvernorat)*

Name of farm, if different: _____

Would you like to receive reports based on the results of this survey?

☐ YES
☐ NO

Now I would like to ask you about each field in the tract, the total hectares in each field, and the crop or land use in 1974. For crops, I will ask for hectares planted and to be planted for all purposes this year.

	Date	Time
1. Date and time of first visit to tract		
2. Date and time that interview was conducted		
3. Date and time that observation was conducted		
a. Fields		
b. Building complex		

SECTION A – HECTARES OF FIELDS AND CROPS IN TRACT

If tract is only a complex, go to Section B.

FIELD NUMBER. . .	1	2	3	4
1. Total hectares in field	101 .	101 .	101 .	101 .
2. Crop or land use *(Specify)*				
3. Is this field double cropped? (1=YES 2=NO)	102	102	102	102
4. Hectares irrigated and to be irrigated?	103 .	103 .	103 .	103 .
5. Farmstead roads, ditches, woods, waste.	104 .	104 .	104 .	104 .
CROPS Planted in the Fall of 1973 or To Be Planted in Spring 1974	111	111	111	111
6a. Regular hard wheat Hectares	.	.	.	.
6b. Regular soft wheat Hectares	112 .	112 .	112 .	112 .
6c. High yielding wheat Hectares	113 .	113 .	113 .	113 .
7. Oats Hectares	114 .	114 .	114 .	114 .
8. Barley Hectares	115 .	115 .	115 .	115 .
9. Fava and horse beans Hectares	116 .	116 .	116 .	116 .
10. Peas (chick peas) Hectares	117 .	117 .	117 .	117 .
11. Perennial forages (Alfalfa, clover, sulla, fescue) Hectares	121 .	121 .	121 .	121 .
12. Gort Hectares	122 .	122 .	122 .	122 .
13. Forage cut green Hectares	123 .	123 .	123 .	123 .
14. Forage, small bushes Hectares	124 .	124 .	124 .	124 .
15. Corn, Sudangrass, sorghum, fenu-grec Hectares	125 .	125 .	125 .	125 .
16. Cash crops Hectares	131 .	131 .	131 .	131 .
17. Other crops Hectares	132 .	132 .	132 .	132 .
18. Fallow Hectares	105 .	105 .	105 .	105 .
19. Olives Hectares	141 .	141 .	141 .	141 .
20. Grapes Hectares	142 .	142 .	142 .	142 .
21. Almonds Hectares	143 .	143 .	143 .	143 .
22. Citrus Hectares	144 .	144 .	144 .	144 .
23. All other fruit trees, including mixed Hectares	145 .	145 .	145 .	145 .
24. Range land Hectares	106 .	106 .	106 .	106 .
25. Forest and woodland Hectares	107 .	107 .	107 .	107 .
26. Other non-agricultural land Hectares	108 .	108 .	108 .	108 .
27. OBSERVE AFTER INTERVIEW IS COMPLETED: *				

*Place a ✓ in column if use appears correct or insert use if answer incorrect and make appropriate changes in red pencil.

Total.....	.
Hectares Owned.....	181 .
Hectares Rented.....	182 .
Hectares Managed.....	183 .
Hectares Association..	184 .
Hectares Other.....	185 .

SECTION A – HECTARES OF FIELDS AND CROPS IN TRACT (Cont.)

Draw and number each field on photo and record useage.

FIELD NUMBER . . .	5	6	7	8	
1. Total hectares	101 .	101 .	101 .	101 .	*ENUMERATOR: Summarize hectares of other crops interplanted with tree crops* ↓
2. Land use name					
3. Double cropped?	102	102	102	102	
4. Irrigated?	103 .	103 .	103 .	103 .	
5. Farm roads,...wasteland	104 .	104 .	104 .	104 .	
6a. Regular hard wheat	111 .	111 .	111 .	111 .	151 .
6b. Regular soft wheat	112 .	112 .	112 .	112 .	152 .
6c. High yielding wheat	113 .	113 .	113 .	113 .	153 .
7. Oats	114 .	114 .	114 .	114 .	154 .
8. Barley	115 .	115 .	115 .	115 .	155 .
9. Fava & horse beans	116 .	116 .	116 .	116 .	156 .
10. Peas (chick peas)	117 .	117 .	117 .	117 .	157 .
11. Perennial forages	121 .	121 .	121 .	121 .	161 .
12. Gort	122 .	122 .	122 .	122 .	162 .
13. Forage cut green	123 .	123 .	123 .	123 .	163 .
14. Forage, small bushes	124 .	124 .	124 .	124 .	164 .
15. Corn,...fenu-grec	125 .	125 .	125 .	125 .	165 .
16. Cash crops	131 .	131 .	131 .	131 .	166 .
17. Other crops	132 .	132 .	132 .	132 .	
18. Fallow	105 .	105 .	105 .	105 .	
19. Olives	141 .	141 .	141 .	141 .	171 .
20. Grapes	142 .	142 .	142 .	142 .	172 .
21. Almonds	143 .	143 .	143 .	143 .	173 .
22. Citrus	144 .	144 .	144 .	144 .	174 .
23. Other fruit trees	145 .	145 .	145 .	145 .	
24. Rangeland	106 .	106 .	106 .	106 .	
25. Forest and woodland	107 .	107 .	107 .	107 .	
26. Other non-ag. land	108 .	108 .	108 .	108 .	
27. OBSERVATION CHECK ✓					

SECTION B – BUILDING COMPLEX OR FARMSTEAD

OBSERVE: Does the tract have buildings or a dwelling? ☐ *YES* ☐ *NO* → *Skip to Section C.*

Now I would like to talk about your building complex shown here on the photo.
Let's sketch each structure or enclosed pen starting with the dwelling, if any.

SKETCH and number each structure or pen.

Supplemental sheet for
additional structures
item 2–7 codes 842–884.

1. What is the **total area** of this building compound? ..... **Hectares** 101 ___

Now we need to determine some information for each structure or pen we have drawn. Let's start with the house (if any). **(After house)** It might be easier to answer the questions if we go into each structure as we go.

	STRUCTURE ON SKETCH							
Number →	House	1	2	3	4	5	6	Pens
2. **Principle use** *(Enter Code)* 1=Crop 2=Equipment 3=Cattle 4=Sheep 5=Other	800 6	806	812	818	824	830	836	886
Building Characteristics *(Skip for pens.)* 3. **Area in square meters**.....	801	807	813	819	825	831	837	
4. How many rooms or separate enclosed areas are in this structure?.....	802	808	814	820	826	832	838	
5. How many rings or ties for animals are in this structure?		809	815	821	827	833	839	889
6. Are animals in this structure or pen now? *(Do not ask if evident.) (Enter code 1=YES 2=NO)*	804	810	816	822	828	834	840	887
7. What kind of animals are in this structure? (Do not ask if evident.) *(Enter code* 1=Cattle 2=Sheep 3=Cattle & Sheep 4=Other.....	805	811	817	823	829	835	841	888
8. *OBSERVE NUMBER (Continue to next building or pen.)*..... a. Cows of all ages	201	201	201	201	201	201	201	201
b. Calves.....	202	202	202	202	202	202	202	202
c. All other cattle.....	203	203	203	203	203	203	203	203
d. Ewes of all ages	231	231	231	231	231	231	231	231
e. Lambs	232	232	232	232	232	232	232	232
f. Other sheep and lambs including rams	233	233	233	233	233	233	233	233

SECTION C – ALL CATTLE AND CALVES ON TRACT

1. If not evident, ask, "Are there any **cattle**, regardless of ownership in the **tract, roadways** or **buildings**?"

YES ☐ – *Go to 1a.* NO ☐ – *Go to Section D.*

1a. Now I have a few questions about the **cattle** and **calves** you now have on this **outlined tract**, which includes the roadsides or in any of the tract buildings – regardless of who owns or herds the animals. You may report all cattle and calves regardless of ownership or report them on an ownership or partnership basis whichever is easiest for you.

Would you prefer to report for these cattle:

regardless of ownership ☐ *answer 2(h) and 3 below.*

on ownership basis ☐ *answer 2(i), 2(j) and 3 below.*

KIND	2. How many _____ are in this field roadsides or buildings in tract:			3. How many of these _____ are purebreed, crossbred or native breed?		
	(h) Regardless of ownership?	*Skip if Col. (h) is completed.* (i) Owned by you or in partnership	(j) Owned by someone else	(k) Purebreed	(l) Crossbreed	(m) Native Breed
	Number	*Number*	*Number*	*Number*	*Number*	*Number*
(a) Cows – including bred heifers	251	251	251	261	271	281
(b) Calves – less than 1 year	252	252	252	262	272	282
(c) Heifers – 1 to 2 years	253	253	253	263	273	283
(d) Bulls and steers for fattening 1–2 years..	254	254	254	264	274	284
(e) Bulls for breeding...	255	255	255	265	275	285
(f) Other _____	256	256	256	266	276	286
(g) Add a+b+c+d+e+f	257	257	257			

4. Then the **total cows, calves, heifers** and **bulls** in Column h is _____ ; in Column i plus Column j is _____ .

Is that correct? YES ☐ NO ☐

5. Are these **cattle under** the **supervision** of a herder? ..... YES = 1 NO = 2 267

6. Are any of these **Item 4 cattle** along these roadsides? *(Refer to photo.)*

NO ☐

YES ☐ – *About how many?* 268

SECTION D – ALL SHEEP ON TRACT

1. If not evident, ask, "Are there any **sheep** or **lambs** in the **tract, roadways** or **buildings?**"

YES ☐ *Go to 2.* NO ☐ *Go to Section E.*

Kind	2. How many _____ are in this tract roadsides or buildings in tract:			3. How many are Barbarins à grosse queue?
	(f) Regardless of ownership?	*Skip if Col. (f) is completed.* (g) Owned by you or in partnership?	(h) Owned by someone else ?	
	Number	*Number*	*Number*	*Number*
(a) Ewes of all ages	321	321	321	331
(b) Other lambs less than 1 year.....	322	322	322	332
(c) Ewe lambs less than 1 year	323	323	323	333
(d) Rams	324	324	324	334
(e) *Add a + b + c + d*.....	325	325	325	

4. Then the **total sheep** and **lambs** in Column (f) is _____ ; in Column (g) plus Column (h) is _____ .

Is that correct? YES ☐ NO ☐

5. Are these **sheep under** the **supervision** of a **herder?** ..... YES = 1 NO = 2..... 335

6. Are any of these _____ **sheep** along this **roadside?** *(Refer to photo.)*

NO ☐

YES ☐ – *About how many?*..... 336

SECTION E – POULTRY AND OTHER LIVESTOCK ON TRACT

Now I would like to obtain **total** numbers of **poultry** and **other livestock** that are on this **tract** now regardless of ownership.

1. How many **chickens** of all ages are on this **tract** now?..... 341

2. How many **goats** of all ages are on this **tract** now?..... 342

3. How many **horses, mules,** or **donkeys?** *(One combined total)* 343

Does the operator live in the tract?

YES ☐ – *Continue.* NO ☐ – *Conclude interview and go to Observation, Section I.*

NOTES:

SECTION F - ENTIRE FARM INFORMATION FOR RESIDENT FARMERS

So far we have talked about that part of your operation which we have drawn out on this photo.
Do you have any other land that you operate or farm? ☐ YES *(Continue)*
(Include all other land regardless of location.) ☐ NO *(Skip to item 6.)*

Resident Farm Code 400

SKETCH and number parcels of land.

Tract

Supplemental sheet for
additional parcels
item 1 codes 357–367
item 2 codes 377–385

Total number of parcels 350

Now we need to obtain some information for each parcel that you operate. Let's start with ...

PARCELS OF LAND	1	2	3	4	5	6	Road Side
1. Do you own, rent or manage this parcel of land? *(Enter Code)* 1=Own 2=Rent 3=Manage 4=Association 5=Other	351	352	353	354	355	356	
2. How many hectares are in this parcel?	371 .	372 .	373 .	374 .	375 .	376 .	
3. Of these ____ hectares, how many were planted in the fall of 1973 or to be planted in spring 1974 to:	411	411	411	411	411	411	
a. Cereals	.	.	.	.	.	.	
b. Gort	412 .	412 .	412 .	412 .	412 .	412 .	
c. All other forages	413 .	413 .	413 .	413 .	413 .	413 .	
4. Regardless of ownership, are there any cattle in parcel ____? *(If yes, continue. If no, skip to item 5.)*	☐YES ☐NO	☐YES ☐NO	☐YES ☐NO	☐YES ☐NO	☐YES ☐NO	☐YES ☐NO	☐YES ☐NO
a. How many cows including bred heifers?	431	431	431	431	431	431	441
b. This year's colves (less than 1 year)?	432	432	432	432	432	432	442
c. Heifers (1 – 2 years)?	433	433	433	433	433	433	443
d. Bulls and steers for fattening (1 – 2 years)?	434	434	434	434	434	434	444
e. Bulls for breeding?	435	435	435	435	435	435	445
f. Other cattle?	436	436	436	436	436	436	446
ADD: item a + b + c + d + e + f →	437	437	437	437	437	437	447
That makes ____ cattle and calves on parcel ____. Does that sound correct? *(If yes, continue. If no, make corrections.)*	☐YES ☐NO	☐YES ☐NO	☐YES ☐NO	☐YES ☐NO	☐YES ☐NO	☐YES ☐NO	☐YES ☐NO
5. Regardless of ownership, are there any sheep on parcel ____? *(If yes, continue. If no, skip to item 6.)*	☐YES ☐NO	☐YES ☐NO	☐YES ☐NO	☐YES ☐NO	☐YES ☐NO	☐YES ☐NO	☐YES ☐NO
a. Ewes of all ages	471	471	471	471	471	471	481
b. Ewe lambs less than 1 year	472	472	472	472	472	472	482
c. Other lambs less than 1 year	473	473	473	473	473	473	483
d. Rams	474	474	474	474	474	474	484

After last parcel, ask:

6. Do you yourself or in partnership own, any cattle or sheep that may be herded or grazing along road sides, etc., that we have not talked about yet?

NO ☐ – *Go to Section G.* YES ☐ – *Ask items 4 and 5 for these cattle or sheep and record in "Road side" column.*

SECTION G – CATTLE AND SHEEP PRACTICES

OBSERVE – Were there cattle/sheep reported in Section C or in Section F:
Cattle ☐ *NO* → *Sheep* ☐ *NO* → *Skip to Section H.*
☐ *YES* ☐ *YES*

Now I have a few questions about the management practices you use for cattle or sheep.

	CATTLE Number	SHEEP Number
1. How many _____ grazed the ditch as main source of pasture?	457	479
2. How is the water served to your _____? *(Enter code: 1=bucket; 2=river; 3=common water tank; 4=automatic)*	501	541
3. How many times a day is water served to your _____? *(Enter code: 1=once a day; 2=twice a day; 3=at will; 4=other)* — Summer	502	542
3. — Winter	503	543
4. Where do you market most of your _____? *(Enter code: 1=animal market; 2=private)*	504	544
5. What is the distance to the market? *(Enter code: 1=0–2 kilometers; 2=3–9 kilometers; 3=10–49 kilometers; 4=50+ kilometers)*	505	545
6. By what method do you transport your _____ to market? *(Enter code: 1=walk; 2=animal traction; 3=mechanical traction)*	507	547
7. At what age do you wean your _____ (Calves/Lambs)? *(Enter code)* a. **Calves** *(1=0–3 months; 2=3–6 months; 3=6 months +; 4=at will of mother)*	508	
b. **Lambs** *(1=0–6 weeks; 2=7–12 weeks; 3=12 weeks +; 4=at will of mother)*		549
8. At what age do you separate males and females? *(Enter code)* a. **Calves** *(1=at birth; 2=less than 6 months; 3=6–9 months; 4=9–12 months; 5=never)*	510	
b. **Lambs** *(1=at birth; 2=weaning; 3=1 year; 4=never)*		551
9. How many times during the last year did you have a veternarian visit your farm for your _____? *(Enter code: 1=none; 2=1–5 times; 3=6–14 times; 4=15 or more)*	512	552
10. What was the principle problem with your _____ that made you use the veternarian? *(Enter code: 1=diseases; 2=abortion; 3=reproduction; 4=worms; 5=other reasons)*	513	553
	CATTLE	**CALVES**
11. How many _____ died from all causes last year?	458	459

12. Do you have any? *(Enter code: 1=YES 2=NO)* — Silo	661
Sheep Dip Facilities	662
Urine Storage Pits	663

13. What are the **principle diseases** you have with your _____? *(Any others?)*

(Enter code "1" for each reason mentioned.)

Diseases	CATTLE Number	Diseases	SHEEP Number
Scepticemie	516	Gale	554
Piroplasmose	517	Clavelee	555
Brucellose	518	Enterotoxemie	556
Tuberculose	519	Tournis	557
Mammite	520	Hamra	558
Fievre charbonneuse	521		
Fievre aphteuse	522		
Verminoses gastro-intestinales	523	Verminoses gastro-intestinales	559

Now I would like to talk about the ration you fed last month.

14. Do you use ____ in your feed ration for → *(Enter Code 1 if item in ration.)*

	Cows Number	Fattening Cattle Number	Sheep Number
a. Grazing on range, fallow, pasture or in ditch	570	581	592
b. Green forage	571	582	593
c. Silage	572	583	594
d. Hay and other dry forage	573	584	595
e. Minerals	574	585	596
f. Concentrates:	575	586	597
(1) Horse Beans	576	587	598
(2) Barley	577	588	599
(3) Bran	578	589	600
(4) Oats	579	590	601
(5) Other concentrates	580	591	602
g. How many times do you serve concentrates a day? *(Enter code 1=1 time; 2=2 times; 3=3 or more)*			

I. OBSERVE--Does respondent have cattle? ☐ *YES* ☐ *NO – Skip to Enumerator Instruction II.*

15. To detect if cows are in heat, do you leave them loose with the bull and/or other cows? *(Enter code 1=YES 2=NO)* ..... [525]

16. Do you use artificial insemination? *(Enter code 1=YES 2=NO)* ..... [526]

17. Do you bucket feed your calves or allow them to suck the cow? *(Enter code 1=Bucket feed 2=Suck cows 3=Both)* ..... [527]

18. Do you feed your calves concentrate? *(Enter code 1=YES 2=NO)* ..... [528]

II. OBSERVE--Does respondent have sheep? ☐ *YES* ☐ *NO – Skip to 21.*

19. Which method do you use to detect ewes in heat? *(Enter code 1=Enutilisant un bout-en-train 2=Signes physiologiques)* ..... [560]

20. In breeding ewes do you use Lutte dirigee? *(Enter code 1=YES 2=NO)* ..... [561]

21. How many sheep did you sacrifice during aid period last year? ..... [495]

22. How many sheep did you sell to others to be sacrificed during aid period last year? ..... [496]

Enter 1 for each item mentioned.	23. What means do you know of that you can get information in Tunisa? ....Any other?	24. Which way would you prefer to obtain information about livestock? ....
	Accept respondents answer – do not prompt.	
a. Radio	610	620
b. T. V.	611	621
c. Newspaper	612	622
d. Bulletins	613	623
e. Extension agencies	614	624
f. Meetings and seminars	615	625
g. Film projections	616	626
h. Other means	617	627
i. No answer	618	628

Enter 1 for each item mentioned.	25. Considering all sources what kind of information are you now receiving concerning livestock raising?...Any other?	26. What kinds of information do you have the most need and want, what kind would you like the most?
	Accept respondents answer – do not prompt.	
a. Herd-book	630	640
b. Marketing	631	641
c. Reproduction	632	642
d. Feeding and nutrition	633	643
e. Forage production – irrigation, fertilizer, planting, etc	634	644
f. Veterinarian services	635	645
g. Construction – buildings, silos, etc	636	646
h. Storage for forage or concentrates	637	647
i. Other subjects	638	648
j. No answer	639	649

	27. Have you been contacted by a representative of	28. For each yes in item 27 would you describe the service as: *Enter code below-- 1 = Very helpful 2 = Helpful 3 = Not helpful*
	Enter 1 below for each yes.	
a. Livestock project	650	654
b. Artificial insemination	651	655
c. Record keeping or performance control	652	656
d. Other government projects	653	657

SECTION H – LABOR, MECHANIZATION AND CREDIT

1. Including yourself, your wife, children and relatives, how many family members are living in your household? 931

2. How many of the _____ family members, including yourself, work on your farm more than an average of two hours per day? 932

3. Do you do any work for someone else? *(Enter Code 1=YES 2=NO)* 933

4. Have you, or will you, hire any workers during 1974? *(Enter Code 1=YES – Continue. 2=NO – Skip to item 7.)* 934

5. How many workers did you hire on a full time basis during the month of April? ..... Men ..... 935 / Women 936

   If full time workers hired, ask:

   a. How many of these workers principally worked on livestock during April? ..... Men ..... 937 / Women 938

6. a. How many workers did you hire on a temporary basis during April? ..... Men ..... 939 / Women 941

   b. How many work days did these temporary workers work during April? ..... Men ..... 942 / Women 943

7. What is the principle means of traction you use on your operation? *(Enter Code 1=Animal 2=Mechanical)* 680

   If animal, ask:

   a. How many animals do you use for traction? 681

8. Do you use credit in your farming operation? *(Enter Code 1=YES – Continue. 2=NO – Skip to item 10.)* 682

9. What source of credit did you use? *(Enter code "1" for each source mentioned.)* 683

   a. Bank 684
   b. Local cashier's office 685
   c. Auto financing 686
   d. Loan from a neighbor 687
   e. Livestock and pasturage project 688
   f. Other loan services 689
   g. Other sources of credit 690

10. Were you able to get all the seed you needed to plant this year's crop? *(Enter Code 1=YES 2=NO)* 691

11. How old are you? ..... Years 692

12. How many years of school have you had? ..... Years

13. Which of the following languages can you read or write? *(Enter code "1" for each language.)*

    a. Arabic 693
    b. French 694
    c. Other _____ 695

SECTION I – CONTROL

ENUMERATOR: *Sketch tract and roads bordering tract below. Designate the road as a field and call it Route.*

North

OBSERVE:

1. Are there any **cattle** or **sheep along** the **roadside** adjacent to the tract?

   ☐ NO – *Skip to Item 4.* ☐ YES – *Continue.*

2. Does it appear that the **cattle** or **sheep** are being **driven** to **market**?

   ☐ YES ☐ NO

   a. If yes, how many cattle _____ ; sheep _____ .

3. Are the **field Route cattle** or **sheep** being **herded** by a herder?

   ☐ NO ☐ YES

   a. If yes, do any of these cattle or sheep belong to _____ *(Tract Operator).*

4. Count the **number** of **cattle** and **sheep** by field and record below.

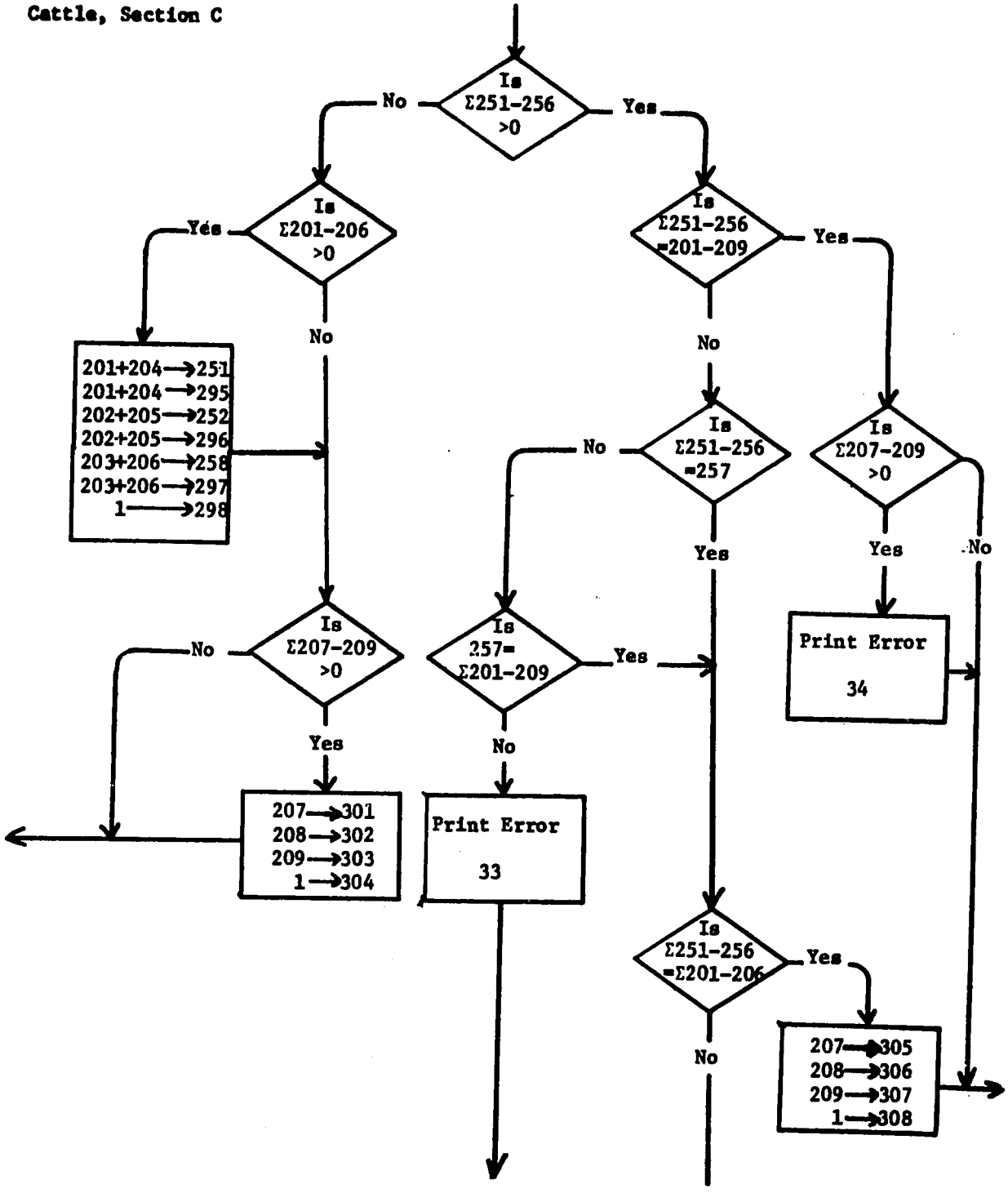
FIELD NUMBER	Route	1	2	3	4	5	6	7	8	9	10
a. Cows of all ages.....	207	204	204	204	204	204	204	204	204	204	204
b. Calves.....	208	205	205	205	205	205	205	205	205	205	205
c. All other cattle.....	209	206	206	206	206	206	206	206	206	206	206
d. Ewes of all ages.....	237	234	234	234	234	234	234	234	234	234	234
e. Lambs.....	238	235	235	235	235	235	235	235	235	235	235
f. Other sheep and lambs including rams.....	239	236	236	236	236	236	236	236	236	236	236

6. Now observe crops and record Item 27 observation in Section A, pages 2 and 3.

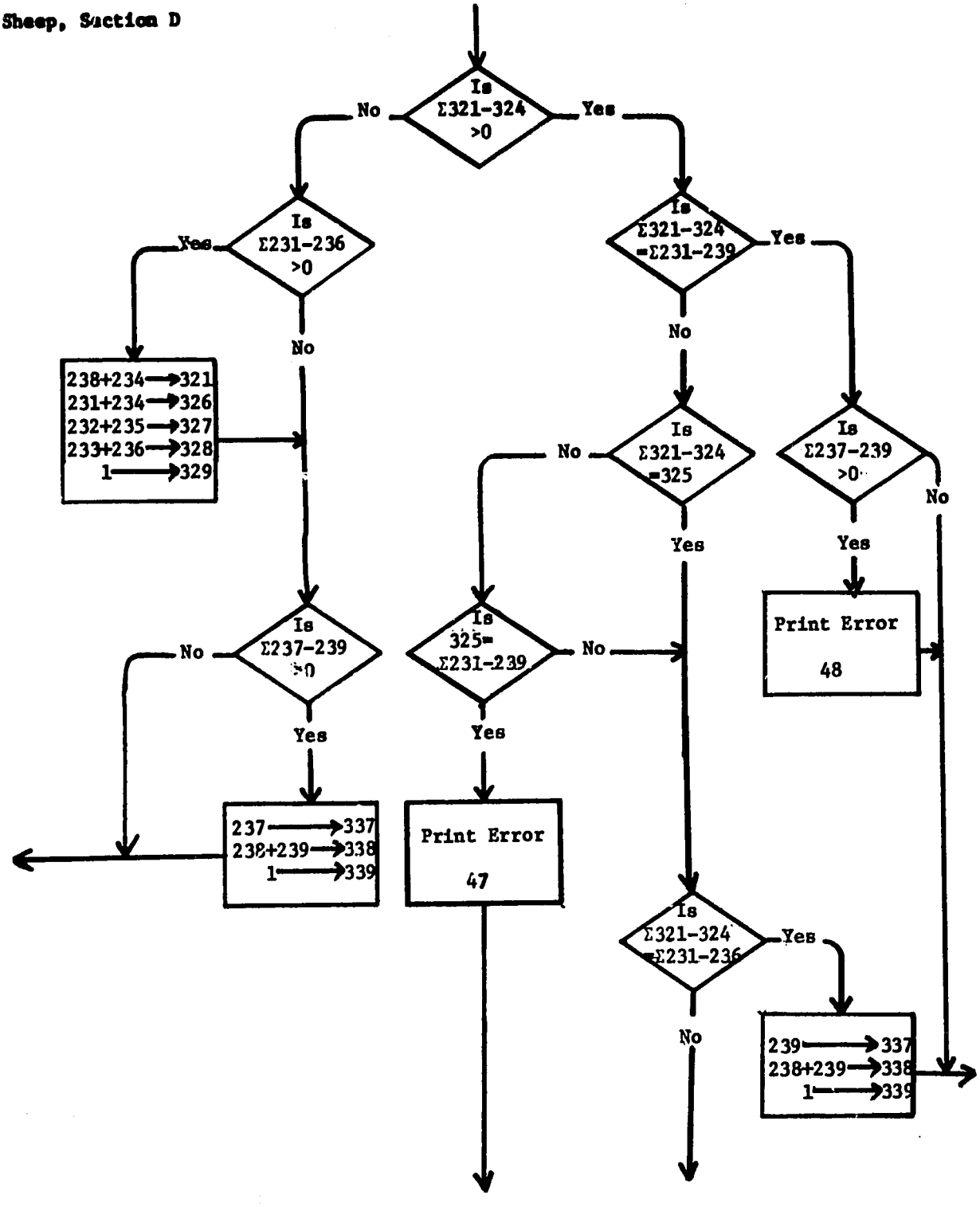
APPENDIX F

SPECIFICATIONS FOR EDITING OBSERVED CATTLE AND SHEEP INTO REPORTED TRACT DATA WHEN RESPONDENT WAS NOT AVAILABLE FOR INTERVIEW AND DEVELOPMENT OF ADJUSTED CATTLE AND SHEEP TRACT ESTIMATES, QUESTIONNAIRE SECTIONS C & D

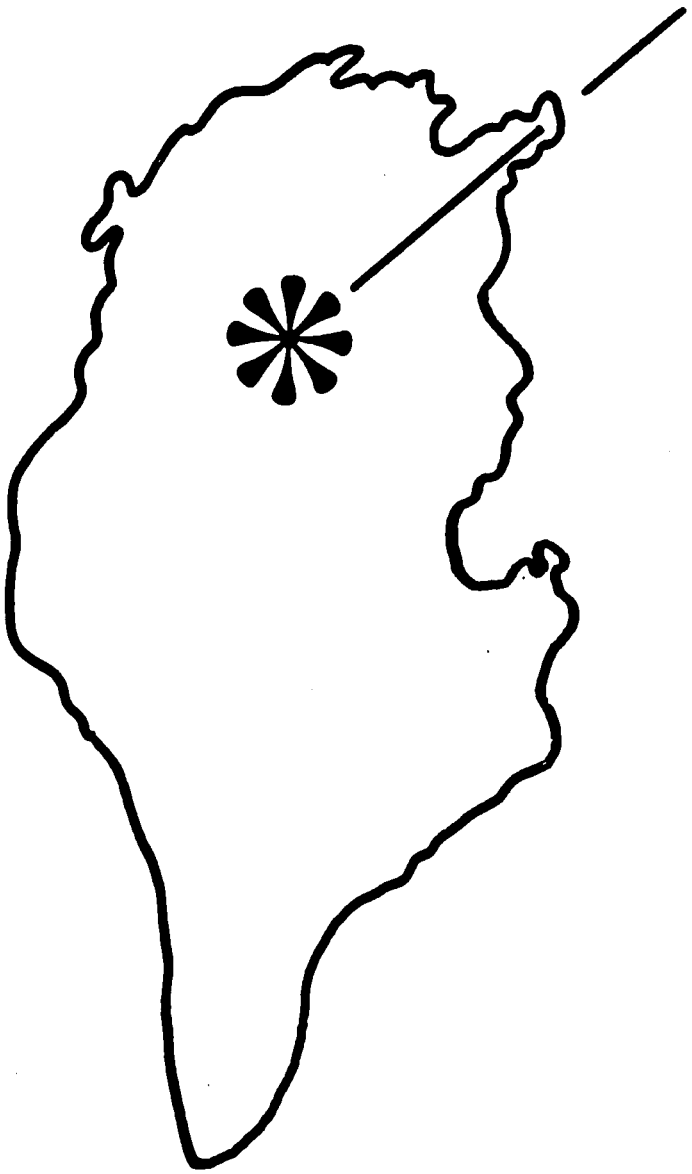
Cattle, Section C



Sheep, Section D



1974 TUNISIAN ACREAGE & LIVESTOCK Enumerative Survey



5 Northern Gouvernorats

VOLUME 2

Statistical Reporting Service • U. S. Department of Agriculture • Washington, D. C. • August 1974 •

The detailed survey tabulations are presented in this volume. Volume I outlines the survey purposes, procedures, selected results and analyses. Both volumes are needed to establish a clear understanding of the information made available by this report.

La classification detaillee de l'enquete est presentee dans ce volume. Les buts de l'enquete, les procedes, des resultats selectionnes, et des analyses sont esquisses dans le Volume I. Les deux volumes sont necessaires pour arriver a une bonne comprehension de renseignements reveles par ce projet.

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Explanation of Tables

In many of the following tables it was necessary to abbreviate the data item descriptions due to space problems. Each table is referenced with data item codes. A more detailed explanation of each data item may be found in Volume I, Appendix C, "Codes for Summarization by Questionnaire Section" and Appendix E, "Survey Questionnaire."

Throughout the tables in Sections B through F of this volume the words "all" and "total" have been used. "All" refers to estimated respondents who answered a particular question or group of questions. "Total" refers to all cattle or sheep operators regardless of whether they answered a particular question or not in Sections B through E, while in Section F "total" refers to all farm operators. The populations on which estimates of practices followed by farm operators and their characteristics are based may vary from table to table because (1) no attempt was made to assure that each qualified respondent answered all questions in Sections G and H of the questionnaire, and (2) not all respondents were qualified to answer all questions. Therefore, the data shown in Sections B through F may not represent the population. If the user wishes to make the assumption that nonrespondents are no different than respondents, he may make inferences to all cattle operators or all sheep operators, ect., in the 5 Northern Gouvernorats by using the proportion of respondents reporting a particular characteristic. The proportion should be calculated by dividing the data of interest by the "all" or "total" column in each table.

Tableaux - Remarques Explicatives

A cause du manque d'espace, il a été nécessaire d'abréger la description des rubriques de données dans un grand nombre des tableaux suivants. Chaque tableau est annoté de codes caractérisant les rubriques de données. On trouvera une explication plus détaillée de chaque rubrique de donnée au Volume I, Appendice C, sous le titre "Codes pour la Sommarisation par Section du Questionnaire" et à l'Appendice E "Questionnaire de l'Enquête."

D'un bout à l'autre des tableaux de la Section B à la Section F, les mots "tous" et "total" ont été utilisés. Le mot "tous" se réfère à une estimation des répondants ayant répondu à une certaine question ou à un certain groupe de questions. Le mot "total" se réfère à l'ensemble des éleveurs de bovins ou d'ovins, sans tenir compte du fait qu'ils aient répondu ou non à une question particulière, et celà, de la Section B à la Section E, tandis qu'à la Section F, le mot "total" se réfère à la totalité des exploitants agricoles. Les populations sur lesquelles sont basées les estimations concernant les pratiques utilisées par les exploitants agricoles et les caractéristiques de ceux-ci peuvent varier d'un tableau à l'autre 1) parce qu'on n'a pas cherché à s'assurer que chaque répondant ayant les qualifications requises pour répondre répondait à toutes les questions aux Sections G et H du questionnaire et 2) parce que toutes les personnes interrogées ne remplissaient pas les conditions nécessaires pour pouvoir répondre à toutes les questions. Il s'ensuit donc que les données présentées de la Section B a la Section F peuvent ne pas être représentatives de la population. Si l'utilisateur de cette étude accepte l'hypothèse que les personnes n'ayant pas répondu ne diffèrent pas de celles qui ont répondu, il peut alors extrapoler et tirer des conclusions au sujet de l'ensemble des éleveurs de bovins ou d'ovins etc., des cinq Gouvernorats du Nord en se servant de la proportion de personnes ayant fait état d'une certaine caractéristique. Cette proportion peut être calculée en divisant les données auxquelles on s'intéresse par la colonne portant la rubrique "tous" ou "total" à l'interieur de chaque tableau.

SECTION A
SECTION A

Table A-1--Estimates and coefficients of variation (in percentage) of land uses from Section A of the questionnaire

Estimations et coefficients de variation (en pourcentage) des emplois du sol -- Section A du questionnaire

Table A-2--Estimates and coefficients of variation (in percentage) of observed cattle and sheep from Sections B and I of the questionnaire

Estimations et coefficients de variation (en pourcentage) des bovins et des ovins -- Sections B and I du questionnaire

Table A-3--Estimates and coefficients of variation (in percentage) of cattle and calves from Section C of the questionnaire

Estimations et coefficients de variation (en pourcentage) des bovins et veaux -- Section C du questionnaire

Table A-4--Estimates and coefficients of variation (in percentage) of sheep, poultry and other livestocks from Sections D and E of the questionnaire

Estimations et coefficients de variation (en pourcentage) des ovins volailles et autre bétail--Sections D et E du questionnaire

Table A-5--Estimates and coefficients of variation (in percentage) of entire farm information for resident farmers from Section F of the questionnaire

Estimations et coefficients de variation (en pourcentage) d'information complète sur la ferme pour les agriculteurs résidants -- Section F du questionnaire

Table A-6--Estimates and coefficients of variation (in percentage) of farm characteristics, labor, mechanization, and credit from Section H of the questionnaire

Estimations et coefficients de variation (en pourcentage) des caractéristiques des fermes, du labeur, de la mécanisation et du crédit -- Section H du questionnaire

Table A-7--Estimates and coefficients of variation (in percentage) of characteristics of the building compound from Section B of the questionnaire

Estimations et coefficients de variation (en pourcentage) des caractéristiques des ensembles des bâtiments -- Section B du questionnaire

Table A-1--Estimates and coefficients of variation (in percentage) of land uses from Section A of the questionnaire

Table A-1--Estimations et coefficients de variation (en pourcentage) des emplois du sol -- Section A du questionnaire

Item description / *Description de rubrique*	Item code / *Code de rubrique*	Land use strata / *Strates d'emploi du sol*: Cultivated / *Cultivée*	Arboriculture / *Arboriculture*	Noncultivated / *Noncultivée*	Urban / *Urbaine*	Total five gouvernorats / *Total des cinq gouvernorats*
		Hectares and coefficients of variation in % / *Hectares et coefficients de variation en %*				
Planimetered area / *Superficie planimétrée*		1,799,449	54,542	628,181	10,679	2,492,851
		4.1	4.2	5.0	9.6	3.2
Total land in fields / *Total de terre en champs*	101	1,716,707	55,258	636,144	10,573	2,418,677
		4.9	25.0	11.6	8.6	4.7
Irrigated land / *Terre irriguée*	103	32,426	7,978	830	378	41,612
		11.1	29.1	50.1	44.3	6.8
Farmstead roads, etc. / *Routes de ferme, etc.*	104	9,280	326	1,166	19	10,791
		7.4	18.4	21.6	59.6	5.8
Fallow / *Jachère*	105	343,997	7,288	67,075	99	418,458
		4.0	20.2	16.8	89.2	3.6
Rangeland / *Parcours*	106	178,879	568	79,589		259,036
		10.7	23.7	23.3		9.1
Forest and woodland / *Forêts et terres en bois*	107	78,306	195	281,419		359,919
		22.6	77.9	15.5		13.1
Other nonagricultural land / *Autres terres non agricoles*	108	135,593	4,231	61,606	9,201	210,631
		12.2	28.1	42.4	11.7	14.7
Total land use in tracts / *Total des emplois du sol dans les lots*	109	1,745,443	59,645	652,642	10,143	2,467,864
		5.0	25.6	11.9	8.2	4.7
Cereal crops / *Cultures céréales*	110	727,663	11,596	111,032	198	850,490
		4.8	27.7	15.7	91.6	4.6
Regular hard wheat / *Blé dur ordinaire*	111	476,323	6,493	69,462		552,278
		4.8	29.7	16.8		4.6
Regular soft wheat / *Blé tendre ordinaire*	112	41,794	769	3,376		45,940
		13.7	21.6	34.3		12.7
High yield wheat / *Blé à haut rendement*	113	22,084	434	364		22,881
		30.7	56.1	75.9		29.7

(Continued) (*A suivre*)

Table A-1--Estimates and coefficients of variation (in percentage) of land uses from Section A of the questionnaire--Continued

Table A-1--Estimations et coefficients de variation (en pourcentage) des emplois du sol -- Section A du questionnaire--Suite

Item description / *Description de rubrique*	Item code / *Code de rubrique*	Land use strata / *Strates d'emploi du sol*: Cultivated / *Cultivée*	Arboriculture / *Arboriculture*	Noncultivated / *Noncultivée*	Urban / *Urbaine*	Total five gouvernorats / *Total des cinq gouvernorats*
		Hectares and coefficients of variation in % / *Hectares et coefficients de variation en %*				
Oats / *Avoine*	114	23,031	697	4,000		27,728
		21.3	29.2	65.9		20.1
Barley / *Orge*	115	106,253	1,734	25,383	198	133,566
		5.1	33.1	16.2	91.6	2.1
Beans / *Fève et féverole*	116	22,641	676	3,525		26,842
		7.7	36.8	23.5		4.4
Peas / *Pois et pois chiches*	117	35,537	793	4,924		41,254
		9.0	31.3	54.4		9.9
All wheat / *Tous blés*	119	540,201	7,696	73,201		621,099
		4.5	28.3	16.9		4.3
Forage crops / *Cultures fourragères*	120	97,016	5,874	5,399	18	108,307
		8.4	35.5	32.8	99.4	7.7
Perennial forages / *Fourrages pluri-annuels*	121	10,956	323	280		11,559
		33.7	46.4	74.2		32.0
Gorth / *Gorth*	122	62,581	3,296	3,273		69,150
		11.6	43.5	59.5		11.1
Forages cut green / *Fourrages en vert*	123	4,640	89			4,728
		32.1	71.1			31.5
Other forage / *Autres fourrages*	124	3,564	16	112		3,692
		12.1	97.6	71.4		11.9
Corn, sorghum, etc. / *Maïs, sorgo, etc.*	125	15,276	2,150	1.734	18	19,178
		12.9	76.5	23.3	99.4	13.5
Specialty crops / *Cultures spéciales*	130	44,675	4,280	4,019	316	53,290
		6.8	34.4	33.9	47.9	2.6
Cash crops / *Cultures maraichères*	131	26,416	4,071	1,856	316	32,659
		7.7	35.4	29.3	47.9	5.4

(Continued) (*A suivre*)

Table A-1--Estimates and coefficients of variation (in percentage) of land uses from Section A of the questionnaire--Continued

Table A-1--Estimations et coefficients de variation (en pourcentage) des emplois du sol -- Section A du questionnaire--Suite

Item description *Description de rubrique*	Item code *Code de rubrique*	Land use strata *Strates d'emploi du sol* Cultivated *Cultivée*	Arboriculture *Arboriculture*	Noncultivated *Noncultivée*	Urban *Urbaine*	Total five gouvernorats *Total des cinq gouvernorats*
		Hectares and coefficients of variation in % *Hectares et coefficients de variation en %*				
Other crops *Autres cultures*	132	18,259 13.2	209 75.3	2,163 36.5		20,631 11.2
Tree crops and vineyards *Arboriculture et vignobles*	140	130,062 4.9	25,288 23.9	41,338 34.5	291 41.0	196,979 6.7
Olives *Oliviers*	141	94,284 5.2	11,474 30.1	24,310 22.0	68 79.5	130,135 3.1
Grapes *Vignobles*	142	7,979 32.7	6,420 17.4	9 99.5		14,409 19.5
Almonds *Amandiers*	143	10,791 30.6	1,358 34.5	466 36.1	26 99.0	12,642 26.0
Citrus *Agrumes*	144	1,683 36.3	1,601 25.3		97 66.7	3,381 14.5
Other fruit trees *Autres fruitiers*	145	15,325 10.6	4,435 19.3	16,552 87.9	100 99.4	36,412 40.2
Crops interplanted with trees *Cultures, interplantées avec arboriculture*						
All cereals *Toutes céréales*	150	24,459 7.2	1,859 39.1	17,018 30.4		43,336 12.2
Hard wheat *Blé dur*	151	11,923 13.1	883 36.0	11,647 39.4		24,453 19.7
Soft wheat *Blé tendre*	152	670 45.4	78 60.3	196 50.5		943 34.3
High yield wheat *Blé à haut rendement*	153			93 99.5		93 99.5
Oats *Avoine*	154	1,300 53.3	46 36.3			1,346 51.5

(Continued) (*A suivre*)

Table A-1--Estimates and coefficients of variation (in percentage) of land uses from Section A of the questionnaire--Continued

Table A-1--Estimations et coefficients de variation (en pourcentage) des emplois du sol -- Section A du questionnaire--Suite

Item description *Description de rubrique*	Item code *Code de rubrique*	Land use strata *Strates d'emploi du sol* Cultivated *Cultivée*	Arboriculture *Arboriculture*	Noncultivated *Noncultivée*	Urban *Urbaine*	Total five governorats *Total des cinq gouvernorats*
		Hectares and coefficients of variation in % *Hectares et coefficients de variation en %*				
Barley *Orge*	155	6,676 12.5	429 34.9	1,912 44.9		9,017 13.2
Beans *Fève et féverole*	156	3,297 18.3	95 44.6	401 54.3		3,793 16.9
Peas *Pois et pois chiches*	157	594 32.4	328 26.9	2,770 95 4		3,691 71.8
All wheat *Tous blés*	158	12,593 12.7	961 36.8	11,936 38.2		25,490 18.7
Forage and cash *Fourrages et cultures maraichères*	160	6,409 9.5	2,058 27.7	280 43.5	61 78.3	8,808 3.1
Perennial forages *Fourrages pluri-annuels*	161	56 88.0				56 88.0
Gorth *Gorth*	162	1,614 29.6	117 54.4	93 99.5		1,824 26.9
Forages cut green *Fourrages en vert*	163	53 66.1				53 66.1
Other forages *Autres fourrages*	164	16 98.6				16 98.6
Corn, sorghum, etc. *Maïs, sorgo, etc.*	165	676 45.3	70 25.6			746 41.2
Cash crops *Cultures maraicheres*	166	3,993 13.5	1,871 26.9	186 42.3	61 78.3	6,112 3.6
Tree crops interplanted with annual crops *Arboriculture interplanté avec des cultures annuelles*						
Olives - annual crops *Oliviers - cultures annuelles*	171	26,796 5.9	2,505 39.3	16,953 30.5	16 99.0	46,269 11.3

(Continued) (*A suivre*)

Table A-1--Estimates and coefficients of variation (in percentage) of land uses from Section A of the questionnaire--Continued

Table A-1--Estimations et coefficients de variation (en pourcentage) des emplois du sol -- Section A du questionnaire--Suite

Item description *Description de rubrique*	Item code *Code de rubrique*	Land use strata *Strates d'emploi du sol* Cultivated *Cultivée*	Arboriculture *Arboriculture*	Noncultivated *Noncultivée*	Urban *Urbaine*	Total five gouvernorats *Total des cinq gouvernorats*
		Hectares and coefficients of variation in % *Hectares et coefficients de variation en %*				
Grapes - annual crops *Vignobles - cultures annuelles*	172	426 46.7	32 98.9			457 44.0
Almonds - annual crops *Amandiers - cultures annuelles*	173	1,426 30.1	244 28.4	121 63.1		1,791 24.4
Citrus - annual crops *Agrumes - cultures annuelles*	174	79 62.9	393 30.2		45 99.4	517 24.5
Land Tenure *Faire-valoir de la terre*						
Owned *En propriété*	181	1,310,994 4.5	40,124 24.5	472,833 10.6	604 39.1	1,824,548 3.9
Rented *En location*	182	115,163 9.9	4,023 64.7	34,493 14.9		153,679 6.8
Managed *En gérance*	183	14,616 46.2	469 57.4			15,084 44.8
Association *En association*	184	79,378 8.8	4,945 26.7	14,472 31.8	265 60.4	99,060 8.4
Other *Autre*	185	188,082 10.5	5,358 24.1	112,599 28.6	9,695 9.1	315,734 11.9
Edited 1/ *Rédigé*	186	124,690 12.9	4,281 27.5	61,107 42.9	9,677 9.2	199,754 15.4

1/ Land edited into other tenure (185) and included in the estimates for other tenure (185).

1/ Terre rédigée dans autre faire-valoir (185) et inclue dans les estimations pour autre faire-valoir (185).

Table A-2--Estimates and coefficients of variation (in percentage) of observed cattle and sheep from Section B and I of the questionnaire

Table A-2--Estimations et coefficients de variation (en pourcentage) des bovins et des ovins -- Section B et I du questionnaire

Item description *Description de rubrique*	Item code *Code de rubrique*	Land use strata *Strates d'emploi du sol* Cultivated *Cultivée*	Arboriculture *Arboriculture*	Noncultivated *Noncultivée*	Urban *Urbaine*	Total five gouvernorats *Total des cinq gouvernorats*
		Numbers and coefficients of variation in % *Nombres et coefficients de variation en %*				
All cattle observed in tracts *Tous bovins observés dans les lots*	200	438,306 4.9	31,539 42.2	97,278 17.2	1,846 25.2	568,969 3.4
Cows in complexes *Vaches dans les ensembles des bâtiments*	201	100,980 8.4	4,813 24.1	23,014 15.2	195 70.3	129,002 6.0
Calves in complexes *Veaux dans les ensembles des bâtiments*	202	62.436 8.5	17,765 77.9	11,171 18.2		91,372 16.0
Other cattle in complexes *Autres bovins dans les ensembles des bâtiments*	203	56,793 18.0	1,662 25.6	12,757 18.7	754 30.6	71,966 13.9
Cows in fields *Vaches dans les champs*	204	77,154 8.2	1,947 18.4	13,950 51.1	247 59.3	93,298 10.2
Calves in fields *Veaux dans les champs*	205	39,105 7.9	1,203 36.5	7,553 49.0	78 99.0	47,940 10.0
Other cattle in fields *Autres bovins dans les champs*	206	27,291 9.9	602 23.9	8,598 63.2	286 72.8	36,776 16.5
Cows along roads *Vaches sur les routes*	207	41,382 9.5	1,852 24.2	11,843 43.1	208 78.3	55,285 11.0
Calves along roads *Veaux sur les routes*	208	19,371 8.6	902 20.3	5,408 49.5	52 99.0	25,734 11.6
Other cattle along roads *Autres bovins sur les routes*	209	13,794 10.5	792 20.7	2,984 45.7	26 99.0	17,596 10.9
Cattle in complexes *Bovins dans les ensembles des bâtiments*	211	220,209 9.2	24,240 53.7	46,942 16.5	949 33.9	292,340 7.6
Cattle in fields *Bovins dans les champs*	212	143,550 7.4	3,752 25.6	30,101 53.8	611 42.6	178,014 10.9
Cattle along roads *Bovins sur les routes*	213	74,547 8.6	3,547 22.6	20,235 44.2	286 83.0	98,615 10.5

(Continued) (*A suivre*)

Table A-2--Estimates and coefficients of variation (in percentage) of observed cattle and sheep from Sections B and I of the questionnaire--Continued

Table A-2--Estimations et coefficients de variation (en pourcentage) des bovins et des ovins -- Sections B et I du questionnaire--Suite

Item description *Description de rubrique*	Item code *Code de rubrique*	Land use strata *Strates d'emploi du sol* Cultivated *Cultivée*	Arboriculture *Arboriculture*	Noncultivated *Noncultivée*	Urban *Urbaine*	Total five gouvernorats *Total des cinq gouvernorats*
		Numbers and coefficients of variation in % *Nombres et coefficients de variation en %*				
All sheep observed in tracts *Tous ovins observés dans les lots*	230	1,929,609 4.4	21,644 25.1	272,700 20.2	17,576 44.6	2,241,525 3.1
Ewes in complexes *Brebis dans les ensembles des bâtiments*	231	366,267 8.6	3,262 15.2	67,886 13.9	4,290 72.8	441,704 6.9
Lambs in complexes *Agneaux dans les ensembles des bâtiments*	232	141,570 9.4	2,692 23.1	31,425 15.4	2,652 71.2	178,338 8.0
Other sheep in complexes *Autres ovins dans les ensembles des bâtiments*	233	76,725 17.4	1,742 21.8	12,160 14.6	377 53.5	91,003 14.7
Ewes in fields *Brebis dans les champs*	234	726,297 8.0	4,085 21.5	74,227 34.9	754 78.9	805,363 7.6
Lambs in fields *Agneaux dans les champs*	235	255,123 8.4	2,248 20.8	33,010 35.0	325 60.0	290,707 8.2
Other sheep in fields *Autres ovins dans les champs*	236	180,609 9.5	2,517 23.8	31,705 54.5		214,831 11.3
Ewes along roads *Brebis sur les routes*	237	111,738 15.6	2,628 22.6	11,749 37.2	4,966 72.9	131,082 13.9
Lambs along roads *Agneaux sur les routes*	238	45,177 17.6	1,552 13.7	6,994 34.4	3,796 63.0	57,518 15.0
Other sheep along roads *Autres ovins sur les routes*	239	26,103 17.0	918 23.6	3,543 39.4	416 66.0	30,981 15.0
Sheep in complexes *Ovins dans les ensembles des batiments*	241	584,562 8.6	7,695 16.7	111,471 12.8	7,319 68.2	711,046 6.9
Sheep in fields *Ovins dans les champs*	242	1,162,029 7.4	8,851 18.9	138,942 39.1	1,079 71.8	1,310,896 7.5
Sheep along roads *Ovins sur les routes*	243	183.018 15.6	5,098 10.0	22,287 35.3	9,178 67.7	219,581 13.7

Table A-3--Estimates and coefficients of variation (in percentage) of cattle and calves from Section C of the questionnaire

Table A-3--Estimations et coefficients de variation (en pourcentage) des bovins et veaux--Section C du questionnaire

Item description / *Description de rubrique*	Item code / *Code de rubrique*	Land use strata / *Strates d'emploi du sol*: Cultivated / *Cultivée*	Arboriculture / *Arboriculture*	Noncultivated / *Noncultivée*	Urban / *Urbaine*	Total five gouvernorats / *Total des cinq gouvernorats*
		Numbers and coefficients of variation in % / *Nombres et coefficients de variation en %*				
All cattle in tracts / *Tous bovins dans les lots*	250	372,438	29,655	85,510	1,742	489,345
		5.0	44.2	18.8	24.7	4.1
Cows including bred heifers / *Vaches y compris les génisses fécondées*	251	185,889	7,441	40,377	468	234,175
		5.2	26.0	17.2	40.2	3.1
Calves < 1 year / *Veaux < 1 an*	252	105,138	11,305	22,790	897	140,130
		5.9	51.8	20.2	41.3	5.4
Heifers, 1-2 years 1/ / *Génisses, 1-2 ans*	253	28,380	1,172	4,084		33,636
		11.5	10.8	20.5		9.9
Bulls and steers, 1-2 years 1/ / *Taureaux et boeufs, 1-2 ans*	254	24,882	1,124	1,772	273	28,051
		19.1	23.9	45.0	63.5	17.2
Bulls for breeding 1/ / *Taureaux destinés à la reproduction*	255	8,019	491	1,548		10,058
		8.8	25.5	17.8		7.5
Other cattle 1/ / *Autres bovins*	256	11,319	7,980	7,479		26,777
		9.2	97.5	18.6		28.9
Observed other cattle edit into tracts / *Autres bovins observés rédigés dans le lot*	258	8,811	142	7,460	104	16,517
		18.5	52.8	72.4	99.0	34.2
Total purebred cattle 1/ / *Total des bovins pur sang*	260	17,985	16,292	93		34,370
		18.4	82.7	99.5		40.4
Pure bred cows 1/ / *Vaches pur sang*	261	10,131	1,061			11,192
		19.0	25.1			17.1
Purebred calves < 1 year 1/ / *Veaux pur sang < 1 an*	262	3,927	6,872	93		10,892
		23.2	87.7	99.5		56.0
Purebred heifers, 1-2 years 1/ / *Génisses pur sang d' 1 à 2 ans*	263	1,056	190			1,246
		33.2	50.6			29.2
Purebred bulls, 1-2 years 1/ / *Taureaux pur sang, d' 1 à 2 ans*	264	2,211	237			2,448
		55.9	55.2			50.8

(Continued) (*A suivre*)

Table A-3--Estimates and coefficients of variation (in percentage) of cattle and calves from Section C of the questionnaire--Continued

Table A-3--Estimations et coefficients de variation (en pourcentage) des bovins et veaux--Section C du questionnaire--Suite

Item description *Description de rubrique*	Item code *Code de rubrique*	Land use strata *Strates d'emploi du sol* Cultivated *Cultivée*	Arboriculture *Arboriculture*	Noncultivated *Noncultivée*	Urban *Urbaine*	Total five gouvernorate *Total des cinq gouvernorats*
		Numbers and coefficients of variation in % *Nombres et coefficients de variation en %*				
Purebred breeding bulls 1/ *Taureaux pur sang, destinés à la reproduction*	265	561 27.5	16 98.4			577 26.8
Purebred other cattle 1/ *Autres bovins pur sang*	266	99 71.9	7,916 98.4			8,015 97.2
Roadside cattle (tracts) 1/ *Bovins des fossés (lots)*	268					
Total crossbred cattle 1/ *Total des bovins de race croisée*	270	66,495 26.2	1,441 31.6	3,264 60.7		71,199 24.6
Crossbred cows 1/ *Vaches de race croisée*	271	31,812 27.[illegible]	776 44.8	1,305 61.9		33,893 25.5
Crossbred calves < 1 year 1/ *Veaux de race croisée < 1 an*	272	20,856 28.5	459 24.0	1,026 73.6		22,341 26.8
Crossbred heifers, 1-2 years 1/ *Génisses de race croisée 1 à 2 ans*	273	6,237 34.9	32 98.4	466 82.0		6,735 32.8
Crossbred bulls, 1-2 years 1/ *Taureaux de race croisée, 1 à 2 ans*	274	5,775 36.3	32 69.3	186 57.4		5,993 35.1
Crossbred breeding bulls 1/ *Taureaux de race croisée destinés à la reproduction*	275	1,287 22.7	142 50.1	186 57.4		1,616 19.7
Crossbred other cattle 1/ *Autres bovins de race croisée*	276	528 56.5		93 99.4		521 50.3
Total native cattle 1/ *Total des bovins de race croisée*	280	221,826 5.1	10,513 28.6	54,607 15.2	1,352 26.8	288,298 0.6
Native cows 1/ *Vaches de race locale*	281	109,593 4.6	4,797 26.6	26,296 14.9	273 54.5	140,959 0.9

(Continued) *(A suivre)*

Table A-3--Estimates and coefficients of variation (in percentage) of cattle and calves from Section C of the questionnaire--Continued

Table A-3--Estimations et coefficients de variation (en pourcentage) des bovins et veaux--Section C du questionnaire--Suite

Item description *Description de rubrique*	Item code *Code de rubrique*	Land use strata *Strates d' emploi du sol* Cultivated *Cultivée*	Arboriculture *Arboriculture*	Noncultivated Noncultivée	Urban *Urbaine*	Total five gouvernorats *Total des cinq gouvernorats*
		Numbers and coefficients of variation in % *Nombres et coefficients de variation en %*				
Native calves, < 1 year 1/ *Veaux de race locale, < 1 an*	282	61,578 4.4	3,499 27.9	15,610 16.7	897 41.3	81,584 2.4
Native hiefers, 1-2 years 1/ *Génisses de race locale, 1 a 2 ans*	283	18,612 10.9	966 10.4	2,965 23.4		22,543 9.5
Native bulls, 1-2 years 1/ *Taureaux de race locale, 1 a 2 ans*	284	16,236 25.2	855 28.8	1,492 54.0	182 99.4	18,765 22.2
Native breeding bulls 1/ *Taureaux de race locale destinés à la reproduction*	285	5,841 11.3	332 36.8	1,212 24.6		7,386 9.7
Native other cattle 1/ *Autres bovins de race locale*	286	9,966 9.7	63 60.5	7,031 17.7		17,060 2.1
Observed cattle edited into tracts as respondent not available *Bovins observés rédigés dans les lots à cause du manque d'un répondant*						
Cows *Vaches*	295	28,347 17.5	918 27.8	10,724 66.1	91 99.4	40,080 21.6
Calves *Veaux*	296	14,025 15.6	522 29.8	5,408 67.2		19,956 21.2
Other cattle *Autres bovins*	297	8,811 18.5	142 52.8	7,460 72.4	104 99.2	16,517 34.2
Edit frequency 2/ *Frequence de redaction*	298	6,963 6.6	317 35.6	746 32.1	143 72.8	8,169 2.5
Cattle observed along roads when reported cattle were zero or equaled observed tract cattle *Bovins observes sur les routes quand le nombre de bovins rapportes a ete zero ou egal aux bovins observes dans les lots*						

(Continued) (*A suivre*)

Table A-3--Estimates and coefficients of variation (in percentage) of cattle and calves from Section C of the questionnaire--Continued

Table A-3--Estimations et coefficients de variation (en pourcentage) des bovins et veaux--Section C du questionnaire--Suite

Item description *Description de rubrique*	Item code *Code de rubrique*	Land use strata *Strates d'emploi du sol* Cultivated *Cultivée*	Arboriculture *Arboriculture*	Noncultivated *Noncultivée*	Urban *Urbaine*	Total five gouvernorats *Total des cinq gouvernorats*
		Numbers and coefficients of variation in % *Numbres et coefficients de variation en %*				
All cattle *Tous bovins*	300	72,435 8.8	2,992 18.2	20,235 44.2	286 83.0	95,948 10.8
Cows *Vaches*	301	29,766 10.9	1,314 23.5	8,299 47.7	208 78.3	39,587 12.3
Calves *Veaux*	302	15,147 10.0	412 25.4	4,476 56.1	52 99.0	20,087 14.0
Other cattle *Autres bovins*	303	11,022 11.0	475 24.4	1,958 51.7	26 99.0	13,481 11.4
Edit frequency 2/ *Frequence de redaction*	304	6,897 8.3	427 19.0	1,678 24.7	78 73.8	9,081 2.7
Cattle observed along road when reported tract cattle = observed tract cattle *Bovins observés sur les routes quand bovins rapportés dans le lot = bovins observés dans le lot*						
Cows *Vaches*	305	10,230 23.9	237 80.5	3,543 92.0		14,011 29.1
Calves *Veaux*	306	3,696 27.9	348 90.2	932 99.5		4,977 28.6
Other cattle *Autres bovins*	307	2,574 34.7	206 66.7	1,026 90.9		3,806 34.1
Edit frequency 2/ *Fréquence de rédaction*	308	1,551 14.7	127 57.9	186 70.4		1,864 14.7

(Continued) (*A suivre*)

Table A-3--Estimates and coefficients of variation (in percentage) of cattle and calves from Section C of the questionnaire--Continued

Table A-3--Estimations et coefficients de variation (en pourcentage) des bovins et veaux--Section C du questionnaire--Suite

Item description *Description de rubrique*	Item code Code de rubrique	Land use strata *Strates d'emploi du sol* Cultivated *Cultivée*	Arboriculture *Arboriculture*	Noncultivated *Noncultivée*	Urban *Urbaine*	Total five gouvernorats *Total des cinq gouvernorats*
		Numbers and coefficients of variation in % *Nombres et coefficients de variation en %*				
Cattle in tract adjusted for roadside animals ***Bovins dans le lot ajustés en fonction des animaux des fossés***						
All cattle *Tous bovins*	310	444,873 4.8	32,648 40.5	105,745 16.8	2,028 22.4	585,294 2.3
Cows *Vaches*	311	225,885 4.9	8,993 26.9	52,220 14.9	676 33.4	287,774 .5
Calves *Veaux*	312	123,981 5.6	12,065 48.8	28,199 18.9	949 38.8	165,193 3.9
Other cattle *Autre bovins*	313	95,007 6.2	11,590 65.3	25,327 19.2	403 50.4	132,326 7.5

1/ Does not include cattle edited into tract when respondent was not available for interview.
Non compris bovins rédigés dans le lot quand le répondant n'était pas disponible à une interview.

2/ Expanded number of times the edit action occured.
Nombre extrapole du freouence de l'action de redaction.

Table A-4--Estimates and coefficients of variation (in percentage) of sheep, poultry and other livestock from Section D and E of the questionnaire

Table A-4--Estimations et coefficients de variation (en pourcentage) des ovins, volailles et autre betail--Section D et E du questionnaire

Item description *Description de rubrique*	Item code *Code de rubrique*	Land use strata *Strates d'emploi du sol* Cultivated *Cultivée*	Arboriculture *Arboriculture*	Noncultivated *Noncultivée*	Urban *Urbaine*	Total five gouvernorats *Total des cinq gouvernorats*
		Numbers and coefficients of variation in % *Nombres et coefficients de variation en %*				
Total sheep *Total d'ovins*	320	1,948,485 5.1	21,153 19.5	290,809 15.9	8,554 58.1	2,268,997 3.6
Ewes all ages *Brebis de tous ages*	321	1,190,277 4.8	9,832 19.8	170,088 13.4	5,044 62.0	1,375,234 3.1
Ram lambs < 1 year *Agneaux < 1 an*	322	311,949 6.5	6,191 20.3	30,306 13.9	1,677 52.6	350,123 5.4
Ewe lambs < 1 year *Agnelles < 1 an*	323	295,944 11.2	3,119 22.6	34,969 13.2	1,547 70.3	335,578 9.8
Rams and other sheep *Béliers et autres ovins*	324	56,925 10.9	507 16.6	6,117 15.6	195 70.3	63,744 9.6
Observed sheep edited into tract as respondent not available *Ovins observés rédigés dans le lot à cause du manque d'un répondant*						
Ewes *Brebis*	326	173,052 14.1	1,647 40.8	51,940 48.6	182 99.4	226,821 15.5
Lambs *Agneaux*	327	59,334 14.7	570 52.5	21,727 51.9	91 99.4	81,722 17.5
Other sheep *Autres ovins*	328	34,056 19.9	934 40.3	27,602 62.5		62,592 29.6
Edit frequency 2/ *Fréquence de redaction*	329	6,369 5.9	412 22.8	1,026 26.1	91 99.4	7,897 5.9
Total purebred sheep 1/ *Total des ovins pur sang*	330	957,000 8.2	12,951 17.5	144,220 16.2	7,137 70.5	1,121,305 7.1
Purebred ewes 1/ *Brebis pur sang*	331	586,212 8.3	5,906 16.2	91,478 19.3	4,290 72.8	687,886 7.2

(Continued) *(A suivre)*

Table A-4--Estimates and coefficients of variation (in percentage) of sheep, poultry and other livestock from Section D and E of the questionnaire--Continued

Table A-4--Estimations et coefficients de variation (en pourcentage) des ovins, volailles et autre betail--Section D et E du questionnaire --Suite

Item description *Description de rubrique*	Item code *Code de rubrique*	Land use strata *Strates d'emploi du sol* Cultivated *Cultivée*	Arboriculture *Arboriculture*	Noncultivated *Noncultivée*	Urban *Urbaine*	Total five gouvernorats *Total des cinq gouvernorats*
		Numbers and coefficients of variation in % *Nombres et coefficients de variation en %*				
Purebred ram lambs < 1 year 1/ *Agneaux pur sang < 1 an*	332	169,026 7.5	4,639 21.2	22,380 19.9	1,105 78.5	197,150 6.8
Purebred ewe lambs < 1 year 1/ *Agnelles pur sang < 1 an*	333	167,541 13.6	2,074 12.9	25,177 17.5	1,547 70.3	196,339 11.8
Purebred rams and other sheep 1/ *Béliers et autres ovins pur sang*	334	34,221 14.8	332 23.0	5,185 1°.5	195 70.3	39,933 12.8
Roadside sheep-tract *Ovins des fossés-lot*	336	22,737 22.9	2,533 33.6			25,270 20.9
Sheep observed along roads with no sheep reported *Ovins observés sur les routes quand point d'ovins rapportés*						
Ewes *Brebis*	337	100,188 16.7	2,597 23.5	11,749 37.2	4,966 72.9	119,500 14.8
All other sheep *Tous autres ovins*	338	65,406 17.7	2,312 16.6	10,537 34.8	4,212 62.9	82,467 15.0
Edit frequency 2/ *Fréquence de rédaction*	339	6,270 6.4	443 26.4	1,492 15.2	468 31.3	8,673 3.4
Sheep in tracts adjusted for roadside animals *Ovins dans les lots ajustés pour tenir compte des animaux des fossés*						
All sheep *Tous ovins*	344	2,114,079 4.8	26,061 21.6	313,096 15.7	17,732 44.2	2,470,962 2.9
Ewes *Brebis*	345	1,290,465 4.4	12,429 22.0	181,837 13.5	10,010 47.2	1,494,732 2.3

(Continued) (*A suivre*)

Table A-4--Estimates and coefficients of variation (in percentage) of sheep, poultry and other livestock from Section D and E of the questionnaire--Continued

Table A-4--Estimations et coefficients de variation (en pourcentage) des ovins, volailles et autre betail--Section D et E du questionnaire --Suite

Item description *Description de rubrique*	Item code *Code de rubrique*	Land use strata *Strates d'emploi du sol* Cultivated *Cultivée*	Arboriculture *Arboriculture*	Noncultivated *Noncultivée*	Urban *Urbaine*	Total five gouvernorats *Total des cinq gouvernorats*
		Numbers and coefficients of variation in % *Nombres et coefficients de variation en %*				
All other sheep *Tous autres ovins*	346	823,614 6.0	13,632 21.6	131,259 20.2	7,722 42.1	976,227 4.6
Chickens, all ages *Volailles de tous âges*	341	794,673 4.8	133,582 52.6	175,403 17.8	83,993 55.6	1,187,647 5.7
Goats, all ages *Caprins de tous âges*	342	244,134 10.9	1,742 34.7	182,359 15.8	4,043 67.7	432,278 2.9
Horses, mules, donkeys *Equins*	343	108,273 4.9	4,655 29.4	26,949 16.4	1,677 45.7	141,554 4.9

1/ Does not include observed sheep edited into tract due to respondent not available for interview.
Non compris les ovins observés rédigés dans le lot quand le répondant n'était pas disponible à une inte· ·iew.

2/ Expanded number of times the edit action occured.
Nombre extrapole du frequence de l'action de redaction.

Table A-5--Estimates and coefficients of variation (in percentage) of entire farm information for resident farmers from Section F of the questionnaire

Table A-5--Estimations et coefficients de variation (en pourcentage) des renseignements complets sur la ferme pour les agriculteurs résidants--Section F du questionnaire

Item description / *Description de rubrique*	Item code / *Code de rubrique*	Land use strata / *Strates d'emploi du sol*: Cultivated / *Cultivée*	Arboriculture / *Arboriculture*	Noncultivated / *Noncultivée*	Urban / *Urbaine*	Total five gouvernorats / *Total des cinq gouvernorats*
		Hectares and coefficients of variation in % / *Hectares et coefficients de variation en %*				
Resident farm operator / *Exploitants agricoles résidants*	400	63,228	4,433	16,673	4,628	88,962
		6.3	29.6	18.6	36.1	6.2
Total land in farms / *Total de terre en fermes*	401	1,054,696	38,564	233,747	107,458	1,434,456
		9.0	15.9	13.1	33.0	6.5
Land tenure / *Faire-valoir*						
Owned / *En propriété*	402	744,494	24,799	183,124	59,026	1,011,443
		11.4	38.9	12.5	24.1	7.8
Rented / *En location*	403	135,012	3,889	18,566	1,872	159,339
		30.9	69.2	16.9	70.4	26.3
Managed / *En gérance*	404	11,190	510	559		12,260
		58.9	64.4	99.7		54.1
Association / *En association*	405	135,006	8,751	15,321	44,886	203,964
		19.9	35.7	31.5	74.2	21.2
Other / *Autre*	406	20,463	364	14,924	437	36,188
		38.9	72.9	90.7	38.3	43.4
Land in cereals and forages / *Terre en céréales et fourrages*	410	565,569	25,219	99,740	47,584	738,111
		8.9	23.9	15.2	40.8	6.9
Cereals / *Céréales*	414	496,536	11,051	91,198	35,720	634,506
		8.1	26.9	15.1	44.6	6.3
Corth / *Gorth*	415	41,151	2,730	5,231	11,448	60,560
		23.9	43.1	47.1	38.5	18.3
All other forages / *Tous autres fourrages*	416	27,882	11,438	3,310	416	43,046
		24.3	86.8	17.1	57.2	27.9

(Continued) (*A suivre*)

Table A-5--Estimates and coefficients of variation (in percentage) of entire farm information for resident farmers from Section F of the questionnaire--Continued

Table A-5--Estimations et coefficients de variation (en pourcentage) des renseignements complets sur la ferme pour les agriculteurs résidants--Section F du questionnaire--Suite

Item description *Description de rubrique*	Item code *Code de rubrique*	Land use strata *Strates d'emploi du sol* Cultivated *Cultivée*	Arboriculture *Arboriculture*	Noncultivated *Noncultivée*	Urban *Urbaine*	Total five gouvernorats *Total des cinq gouvernorats*
		Hectares and coefficients of variation in % *Hectares et coefficients de variation en %*				
All forages *Tous fourrages*	417	69,032 20.8	14,167 64.0	8,542 30.6	11,864 36.9	103,605 17.0
Number farms having *Nombre de fermes qui ont*						
Cattle - no sheep *Bovins - pas d'ovins*	421	12,705 5.9	1,330 26.0	4,010 19.1	832 36.6	18,877 5.4
Cattle - sheep *Bovins - ovins*	422	23,199 4.8	1,203 25.1	6,416 14.5	871 20.1	31,689 4.5
Cattle *Bovins*	423	35,904 5.9	2,533 28.5	10,425 18.5	1,703 22.4	50,566 5.9
Sheep - no cattle *Ovins - pas de bovins*	424	10,956 4.7	396 33.8	1,678 20.2	286 44.5	13,316 1.9
Sheep *Ovins*	425	34,155 5.3	1,599 25.9	8,094 15.1	1,157 14.2	45,005 4.9
No cattle - no sheep *Pas de bovins ni d'ovins*	426	16,104 6.6	1,504 25.3	4,569 18.3	2,639 41.7	24,816 6.7
Cattle reported along roads *Bovins rapportés sur les routes*						
All cattle *Tous bovins*	440	5,379 21.8	317 42.0	1,772 55.0		7,467 20.5
Cows *Vaches*	441	2,508 19.9	190 39.3	932 58.0		3,630 20.4
Calves < 1 year *Veaux < 1 an*	442	1,551 22.4	111 44.5	466 59.7		2,128 21.1

(Continued) (*A suivre*)

Table A-5--Estimates and coefficients of variation (in percentage) of entire farm information for resident farmers from Section F of the questionnaire--Continued

Table A-5--Estimations et coefficients de variation (en pourcentage) des renseignements complets sur la ferme pour les agriculteurs residants--Section F du questionnaire--Suite

Item description / *Description de rubrique*	Item code / *Code de rubrique*	Land use strata / *Strates d'emploi du sol*: Cultivated / *Cultivée*	Arboriculture / *Arboriculture*	Noncultivated / *Noncultivée*	Urban / *Urbaine*	Total five gouvernorats / *Total des cinq gouvernorats*
		Hectares and coefficients of variation in % / *Hectares et coefficients de variation en %*				
Heifers, 1-2 years / *Genisses, 1 a 2 ans*	443	429	16			445
		48.6	98.4			47.0
Bulls and steers, 1-2 years / *Taureaux et boeufs, 1 a 2 ans*	444	99		373		472
		73.5		78.6		64.0
Bulls for breeding / *Taureaux destines a la reproduction*	445	297				297
		51.7				51.7
Other cattle / *Autres bovins*	446	759				759
		39.5				39.5
All cattle / *Tous bovins*	450	287,694	14,424	63,335	15,509	380,962
		7.0	25.4	14.9	23.5	4.0
Cows / *Vaches*	451	141,669	6,808	30,437	6,942	185,856
		6.9	24.0	14.4	24.7	4.1
Calves < 1 year / *Veaux < 1 an*	452	87,087	4,465	17,662	3,991	113,204
		7.9	27.7	16.3	23.9	5.1

(Continued) (*A suivre*)

Table A-5--Estimates and coefficients of variation (in percentage) of entire farm information for resident farmers from Section F of the questionnaire--Continued

Table A-5--Estimations et coefficients de variation (en pourcentage) des renseignements complets sur la ferme pour les agriculteurs residants--Section F du questionnaire--Suite

Item description *Description de rubrique*	Item code *Code de rubrique*	Land use strata *Strates d'emploi du sol* Cultivated *Cultivée*	Arboriculture *Arboriculture*	Noncultivated *Noncultivée*	Urban *Urbaine*	Total five gouvernorats *Total des cinq gouvernorats*
		Hectares and coefficients of variation in % *Hectares et coefficients de variation en %*				
Heifers, 1-2 years 1/ *Génisses, 1 à 2 ans*	453	23,034 14.0	1,346 20.2	4,084 20.5	416 64.3	28,880 11.6
Bulls and steers, 1-2 years 1/ *Taureaux et boeufs, 1 a 2 ans*	454	15,510 18.3	1,013 17.1	2,145 39.1	2,990 58.4	21,658 15.9
Breeding bulls 1/ *Taureaux destinés à la reproduction*	455	6,897 9.1	554 18.8	1,548 17.8	1,066 58.5	10,065 9.1
Other Cattle 2/ *Autres bovins*	456	13,497 7.9	237 56.4	7,460 18.5	104 99.2	21,298 4.4
Ditch cattle *Bovins des fossés*	457	87,252 8.9	2,692 24.0	20,235 22.7	1,612 44.8	111,791 2.7
Cattle deaths *Bovins morts*	458	7,227 10.2	174 61.0	1,716 29.7	312 50.4	9,429 9.7
Calf deaths *Veaux morts*	459	9,207 58.1	301 66.9	2,070 25.1	676 54.7	12,254 44.0
Total cattle deaths *Total des bovins morts*	461	16,434 33.9	475 44.9	3,786 24.3	988 47.1	21,683 26.0
Average age of operator *Age moyen de l'exploitant*	462/400					48.7
Average years of school *Moyenne d'années passées à l'école*	463/400					1.5
Average number parcels/farm *Nombre moyen de parcelles/ferme*	464/400					2.1
All sheep *Tous ovins*	470	1,496,253 5.1	41,736 44.9	212,013 11.9	57,941 33.1	1,807,936 3.9

(Continued) *(A suivre)*

Table A-5--Estimates and coefficients of variation (in percentage) of entire farm information for resident farmers from Section F of the questionnaire--Continued

Table A-5--Estimations et coefficients de variation (en pourcentage) des renseignements complets sur la ferme pour les agriculteurs résidants--Section F du questionnaire--Suite

Item description *Description de rubrique*	Item code *Code de rubrique*	Land use strata *Strates d'emploi du sol* Cultivated *Cultivée*	Arboriculture *Arboriculture*	Noncultivated *Noncultivée*	Urban *Urbaine*	Total five gouvernorats *Total des cinq gouvernorats*
		Hectares and coefficients of variation in % *Hectares et coefficients de variation en %*				
All ewes *Toutes brebis*	475	918,060 5.2	21,042 48.2	131,669 13.8	38,116 33.4	1,108,883 4.0
Ram lambs < 1 year 3/ *Agneaux < 1 an*	476	273,669 5.9	9,009 30.4	31,425 13.1	9,191 35.7	323,294 4.9
Ewe lambs < 1 year 3/ *Agnelles < 1 an*	477	237,006 7.6	10,386 56.3	35,062 14.6	8,723 38.4	291,177 6.7
Rams and other sheep 4/ *Béliers et autres ovins*	478	67,518 11.8	1,298 24.5	13,857 35.7	1,911 32.2	84,584 11.1
Ditch sheep *Ovins des fossés*	479	280,533 10.0	6,302 21.4	70,497 11.3	,922 43.1	370,253 7.8
Sheep reported along roads *Ovins rapportés sur les routes*						
All sheep *Tous ovins*	480	56,133 24.0	1,298 59.2	9,698 59.5		67,129 21.9
Ewes *Brebis*	481	33,990 24.0	617 78.1	6,061 57.9		40,669 21.8
Ram lambs < 1 year *Agneaux < 1 an*	482	9,603 20.8	317 47.0	1,026 57.0		10,945 19.0
Ewe lambs < 1 year *Agnelles < 1 an*	483	10,989 28.7	253 67.7	2,331 81.3		13,574 27.1
Rams and other sheep *Béliers et autres ovins*	484	1,551 28.3	111 64.5	280 74.1		1,942 25.3
All sheep sacrificed in 1973 *Tous ovins sacrifiés en 1973*	490					

(Continued) *(A suivre)*

Table A-5--Estimates and coefficients of variation (in percentage) of entire farm information for resident farmers from Section F of the questionnaire--Continued

Table A-5--Estimations et coefficients de variation (en pourcentage) des renseignements complets sur la ferme pour les agriculteurs résidants--Section F du questionnaire--Suite

Item description *Description de rubrique*	Item code *Code de rubrique*	Land use strata *Strates d'emploi du sol* Cultivated *Cultivée*	Arboriculture *Arboriculture*	Noncultivated *Noncultivée*	Urban *Urbaine*	Total five gouvernorats *Total des cinq gouvernorats*
		Hectares and coefficients of variation in % *Hectares et coefficients de variation en %*				
Sheep sacrificed by operator *Ovins sacrifiés par l'exploitant*	495	34,881 4.8	1,694 21.8	9,698 12.7	1,846 15.3	48,119 3.8
Sheep sold to be sacrificed *Ovins vendus en vue des sacrifices*	496					
Observed sheep in tracts when resident operator not available *Ovins observés dans les lots à cause du manque d'un exploitant résidant disponible à une interview*						
Ewes *Brebis*	491	33,759 24.3		9,325 66.0		43,084 23.8
Lambs *Agneaux*	492	15,312 28.1	16 99.3	4,103 59.4		19,431 25.5
All other sheep *Tous autres ovins*	493	10,923 32.5	253 49.2	3,637 78.2		14,813 30.7

1/ Does not include cattle observed in tract when resident farm operator not available for interview.
Non compris bovins observés dans le lot quand l'exploitant agricole résidant n'était pas disponible à une interview.

2/ Includes all other cattle, except cows and calves < 1 year, observed in tract when resident farm operator not available for interview.
Y compris tous autres bovins, sauf vaches et veaux < 1 an, observés dans le lot quand l'exploitant agricole résidant n'était pas disponible à une interview.

3/ Does not include sheep observed in tract when resident farm operator not available for interview (see 494).
Non compris ovins observés dans le lot quand l'exploitant agricole résidant n'était pas disponible à une interview (vois 494).

4/ Includes all other sheep, except ewes, observed in tract when resident farm operator not available for interview.
Y compris tous autres ovins, sauf les brebis, observés dans le lot quand l'exploitant agricole résidant n'était pas disponible à une interview.

Table A-6--Estimates and coefficients of variation (in percentage) of farm characteristics, labor, mechanization, and credit from Section H of the questionnaire

Table A-6--Estimations et coefficients de variation (en pourcentage) des caractéristiques des fermes, de la main d'oeuvre, de la mécanisation et du crédit -- Section H du questionnaire

Item description / *Description de rubrique*	Item code / *Code de rubrique*	Land use strata / *Strates d'emploi du sol*: Cultivated / *Cultivée*	Arboriculture / *Arboriculture*	Noncultivated / *Noncultivée*	Urban / *Urbaine*	Total five gouvernorats / *Total des cinq gouvernorats*
		Numbers and coefficients of variation in % / *Nombres et coefficients de variation en %*				
Traction animals / *Animaux utilisés pour le trait*	681	42,966 6.6	1,377 27.0	17,624 16.7	2,418 47.5	64,386 6.5
Operators who read Arabic / *Exploitants qui lisaient l'arabe*	693	64,977 6.3	4,417 29.5	16,524 18.6	4,628 36.1	90,546 6.0
Operators who read French / *Exploitants qui lisaient le français*	694	2,970 19.9	681 14.2	280 57.5	2,522 33.2	6,453 8.3
Operators who read other langagues / *Exploitants qui lisaient d'autres langues*	695	198 98.7	16 98.4	186 99.6	325 39.9	725 41.3
Operators who used animal traction / *Exploitants qui utilisaient la traction animale*	696	28,710 6.7	1,567 29.8	11,544 17.8	2,418 47.5	44,240 6.9
Operators who used machine traction / *Exploitants qui utilisaient la traction mécanique*	697	34,287 5.7	2,866 29.4	5,129 14.0	2,210 19.0	44,491 5.0
Operators who used credit / *Exploitants qui employaient le crédit*	698	3,234 8.5	127 12.3	746 30.5	481 30.9	4,588 8.4
Operators not able to get seed / *Exploitants qui ne pouvaient pas obtenir des semences*	699	26,499 6.4	1,583 34.7	6,154 15.5	3,263 40.1	37,500 6.2
Average family members in household / *Moyenne des membres de famille dans un ménage.*	931 400					7.25
Average working family members on farm / *Moyenne des membres de famille travaillant sur la ferme*	932 400					1.62

(Continued) *(A suivre)*

Table A-7--Estimates and coefficients of variation (in percentage) of characteristics of the building compound from Section B of the questionnaire

Table A-7--Estimations et coefficients de variation (en pourcentage) des caractéristiques des ensembles des bâtiments -- Section B du questionnaire

Item description / *Description de rubrique*	Item code / *Code de rubrique*	Land use strata / *Stratas d'emploi du sol*: Cultivated / *Cultivée*	Arboriculture / *Arboriculture*	Noncultivated / *Noncultivée*	Urban / *Urbaine*	Total five gouvernorats / *Total des cinq gouvernorats*
		Numbers and coefficients of variation in % / *Nombres et coefficients de variation en %*				
Buildings used for cattle / *Bâtiments utilisés pour les bovins*	895	28,050 5.9	2,232 27.3	7,441 17.3	494 15.6	38,218 5.6
Buildings used for sheep / *Bâtiments utilisés pour les ovins*	896	10,131 3.9	412 16.1	3,059 16.9	104 99.0	13,705 3.1
Buildings used for humans / *Bâtiments utilisés pour les humains*	897	62,766 6.3	4,797 29.9	16,020 18.7	4,576 36.6	88,159 6.1
Buildings used for other purposes / *Bâtiments utilisés dans d'autres buts*	898	29,832 6.0	1,520 31.7	8,019 18.5	143 72.8	39,514 5.5
Rooms/cattle building / *Pièces/bâtiment de bovins*	891/895					1.33
Rooms/sheep building / *Pièces/batiment d'ovins*	892/896					1.35
Rooms/human house / *Pièces/bâtiment pour humains*	893/897					2.33
Buildings used for crops / *Bâtiments utilisés pour les récoltes*	901	2,442 15.0	16 99.3	653 39.4		3,111 14.4
Average crop buildings/farm / *Moyenne des bâtiments de récolte/ferme*	901/400					.03
Buildings used for equipment / *Batiments utilises pour l'equipment/ferme*	902	4,785 8.8	253 6.2	93 99.6		5,132 8.4
Average equipment buildings/farm / *Moyenne des bâtiments d'équipment/ferme*	902/400					.06
Average cattle buildings/farm / *Moyenne des bâtiments pour bovins/ferme*	895/400					.43

(Continued) (*A suivre*)

Table A-6--Estimates and coefficients of variation (in percentage) of farm characteristics, labor, mechanization, and credit from Section H of the questionnaire--Continued

Table A-6--Estimations et coefficients de variation (en pourcentage) des caractéristiques des fermes, de la main d'oeuvre, de la mécanisation et du crédit --Section H du questionnaire--Suite

Item description / *Description de rubrique*	Item code / *Code de rubrique*	Land use strata / *Strates d'emploi du sol*: Cultivated / *Cultivée*	Arboriculture / *Arboriculture*	Noncultivated / *Noncultivée*	Urban / *Urbaine*	Total five gouvernorats / *Total des cinq gouvernorats*
		Numbers and coefficients of variation in % / *Nombres et coefficients de variation en %*				
Farmers who reported full time labor / *Exploitants qui ont rapporté des ouvriers à plein temps*	946	5,709 6.9	649 17.7	1,305 17.4	1,313 12.1	8,977 5.2
Farmers who reported full time livestock labor / *Exploitants qui ont rapporté des ouvriers à plein temps travaillant à l'élevage*	947	4,125 8.2	253 27.0	746 20.3	702 23.4	5,826 7.0
Farmers who reported temporary labor / *Exploitants qui ont rapporté des ouvriers temporaires*	948	5,313 8.0	633 19.2	932 24.4	2,340 40.2	9,219 9.3
Full time workers / *Ouvriers à plein temps*	951	26,202 17.9	1,678 22.3	2,518 23.6	5,369 21.1	35,767 13.6
Average full time workers/farm / *Moyenne d'ouvriers à plein temps/ferme*	951/945					2.28
Full time livestock workers/farm / *Ouvriers à plein temps travaillant à l'élevage*	952	6,237 9.9	285 24.6	839 24.8	1,170 22.7	8,531 8.3
Average full time livestock workers/farm / *Moyenne d'ouvriers à plein temp travaillant à l'élevage/ferme*	952/945					.54
Temporary workers / *Ouvriers temporaires*	953	29,403 18.3	2,755 19.0	6,061 45.8	28,288 37.2	66,507 12.2
Days temporary workers worked / *Journées de travail des ouvriers temporaires*	954	150,810 29.0	14,503 18.3	19,303 45.6	65,663 31.1	250,279 16.1
Average days worked - temporary worker / *Moyenne des journées de travail des ouvriers temporaires*	954/953					3.76

Table A-6--Estimates and coefficients of variation (in percentage) of farm characteristics, labor, mechanization, and credit from Section H of the questionnaire--Continued

Table A-6--Estimations et coefficients de variation (en pourcentage) des caracteristiques des fermes, de la main d'oeuvre, de la mécanisation et du crédit -- Section H du questionnaire--Suite

Item description *Description de rubrique*	Item code Code de rubrique	Land use strata *Strates d'emploi du sol* Cultivated *Cultivee*	Arboriculture *Arboriculture*	Noncultivated *Noncultivée*	Urban *Urbaine*	Total five gouvernorats *Total des cinq gouvernorats*
		Numbers and coefficients of variation in % *Nombres et coefficients de variation en %*				
Hired help: *Ouvriers:*						
Full time men *Hommes à plein temps*	935	21,351 17.4	1,298 22.0	2,518 23.6	4,901 18.9	30,068 12.9
Full time women *Femmes à plein temps*	936	4,851 41.7	380 23.6		468 65.1	5,699 35.9
Full time men livestock *Hommes à plein temps qui s'occupaient principalement de l'élevage*	937	5,874 10.0	269 25.4	839 24.8	1,118 22.6	8,100 8.3
Full time women livestock *Femmes à plein temps qui s'occupaient principalement de l'élevage*	938	363 58.9	16 98.4		52 99.0	431 51.1
Temporary men *Hommes temporaires*	939	16,962 14.6	2,011 16.4	5,502 50.1	28,210 37.3	52,685 17.8
Temporary women *Femmes temporaires*	941	12,441 32.4	744 25.1	559 42.8	78 99.0	13,823 29.2
Days worked - temporary men *Journées de travail - hommes temporaires*	942	81,279 18.5	10,861 18.8	16,505 52.9	63,713 32.0	172,358 5.4
Days worked - temporary women *Journées de travail - femmes temporaires*	943	69,531 46.2	3,642 15.5	2,797 38.5	1,950 81.7	77,920 41.3
Farmers who worked off farm *Exploitants qui travaillaient hors de la ferme*	944	13,827 5.1	1,821 28.1	4,289 18.5	1,443 25.4	21,380 5.1
Farmers who reported hired labor *Exploitants qui ont rapporté des ouvriers*	945	9,438 5.2	1,108 19.7	2,145 15.6	3,003 33.1	15,694 6.3

(Continued) *(A suivre)*

Table A-7--Estimates and coefficients of variation (in percentate) of characteristics of the building compound from Section B of the questionnaire--Continue

Table A-7--Estimations et coefficients de variation (en pourcentage) des caractéristiques des ensembles des bâtiments -- Section B du questionnaire--Suite

Item description *Description de rubrique*	Item code *Code de rubrique*	Land use strata *Stratas d'emploi du sol* Cultivated *Cultivée*	Arboriculture *Arboriculture*	Noncultivated *Noncultivée*	Urban *Urbaine*	Total five gouvernorats *Total des cinq gouvernorats*
		Numbers and coefficients of variation in % *Nombres et coefficients de variation en %*				
Average sheep buildings/farm *Moyenne des bâtiments pour ovins/ferme*	896/400					.15
Average other buildings/farm *Moyenne des autres bâtiments/ferme*	898/400					.54
Average human buildings/farm *Moyenne des bâtiments pour humains/ferme*	897/400					.99
Average area of cattle buildings *Surface moyenne des bâtiments pour bovins*	907/903					29
Average area of sheep buildings *Surface moyenne des bâtiments pour ovins*	908/904					42
Average area of human housing *Surface moyenne des bâtiments pour humains*	909/906					70
Buildings with livestock in them at time of interview ***Bâtiments qui contenaient du bétail au moment de l'interview***						
Used for cattle *Utilisés pour bovins*	911	20,097 6.0	1,552 27.0	6,136 19.3	273 33.2	28,057 6.0
Used for sheep *Utilisés pour ovins*	912	5,247 6.7	348 16.2	2,201 19.4	104 99.0	7,900 7.1
Used for humans *Utilisés pour humains*	913	363 28.0	79 34.2	1,212 31.6		1,654 20.9
Used for other purposes *Utilisés dans d'autres buts*	914	4,719 8.3	317 34.6	3,450 19.0		8,486 5.0

(Continued) (*A suivre*)

Table A-7--Estimates and coefficients of variation (in percentage) of characteristics of the building compound from Section B of the questionnaire--Continued

Table A-7--Estimations et coefficients de variation (en pourcentage) des caractéristiques des ensembles des bâtiments -- Section B du questionnaire--Suite

Item description *Description de rubrique*	Item code *Code de rubrique*	Land use strata *Stratas d'emploi du sol* Cultivated *Cultivée*	Arboriculture *Arboriculture*	Noncultivated *Noncultivée*	Urban *Urbaine*	Total five gouvernorats *Total des cinq gouvernorats*
		Numbers and coefficients of variation in % *Nombres et coefficients de variation en %*				
All buildings *Tous bâtiments*	915	30,426 6.0	2,296 28.5	12,999 20.1	377 36.4	46,098 7.0
Total tie-rings in buildings *Total des licous dans les bâtiments*						
Used for cattle *Utilisés pour bovins*	916	109,946 8.2	12,888 25.5	15,405 19.8	1,742 89.3	139,981 4.5
Used for sheep *Utilisés pour ovins*	917	3,465 23.4	823 79.9	504 51.5		4,792 22.4
Used for all other purposes *Utilises dans tous autres buts*	918	31,366 27.7	792 32.4	10,313 11.6		42,472 20.4
Total *Total*	919	144,777 10.0	14,503 25.3	26,222 18.0	1,742 89.3	187,244 5.7
Buildings with cattle or sheep at time of interview *Bâtiments qui contenaient des bovins ou ovins au moment de l'interview*	921	28,347 11.4	2,042 27.1	10,388 28.6	377 77.0	41,154 10.8
Farms with cattle or sheep in pens at time of interview *Fermes avec bovins ou ovins dans les enclos au moment de l'interview*	922	10,659 12.0	332 56.8	2,424 33.1	91 99.4	13,507 11.3
Farms with cattle or sheep in buildings or pens at time of interview *Fermes avec bovins ou ovins dans les bâtiments ou les enclos au moment de l'interview*	923	29,997 10.8	1,852 25.4	10,146 28.3	559 64.0	42,554 10.3
Total tie-rings in pens *Total des licous dans les enclos*	924	16,038 18.6	950 56.4	3,357 61.1		20,345 18.0

SECTION B
SECTION B

Table B-1--Methods used to provide water to cattle

Moyens utilises pour abreuver les bovins

Table B-2--How often water was provided to cattle during the summer

Fréquence avec laquelle bovins sont abreuvés en été

Table B-3--How often water was provided to cattle during the winter

Fréquence avec laquelle bovins sont abreuvés en hiver

Table B-4--Feedstuffs in rations fed to cows during April 1974

Eléments dans les rations de nourriture données aux bovins pendant avril 1974

Table B-5--Concentrates fed to cows and frequency of feeding concentrates during April 1974

Concentrés donnés aux vaches et frequence d'utilisation des concentres pendant avril 1974

Table B-6--Feedstuffs in rations fed to fattening cattle during April 1974

Eléments dans les rations de nourriture données aux bovins à engraisser pendant avril 1974

Table B-7--Concentrates fed to fattening cattle and frequency of feeding concentrates during April 1974

Concentres donnes aux bovins a engraisser et frequence d'utilisation des concentres pendant avril 1974

Table B-8--Cattle breeding and calf feeding practices

Pratiques de reproduction bovine et d'alimentation des veaux

Table B-9--Age at which calves were weaned

Age auquel les veaux sont sevrés

Table B-10--Age at which male and female calves were separated

Age auquel les veaux et les velles sont séparés

Table B-11--Principal cattle diseases reported

Principales maladies bovines rapportees

Table B-12--Principal reasons reported for veterinary visits for cattle

Raisons principales rapportées pour des visites veterinaires aux bovins

Table B-13--Frequency of veterinarian visits for cattle during 1973

Fréquence des visites vétérinaires aux bovins pendant 1973

Table B-14--Type of market used to sell cattle and distance to market

Sorte de marché utilisée pour vendre des bovins et distance du marché

Table B-15--Methods used to transport cattle to market

Moyens utilises pour transporter les bovins au marche

Table B-1--Methods used to provide water to cattle

Table B-1--Moyens utilisés pour abreuver les bovins

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Method / *Moyen*: Bucket / *Seau*	River / *Rivière*	Common water tank / *Abreuvoir commun*	Automatic / *Abreuvoir - automatique*	All / *Tout*
Head / *Pièces*	Number of operators / *Nombre d'exploitants*				
0	99	99			198
1-9	10512	20195	4603	504	35814
10-29	1034	4092	1549	98	6773
30-49	99	324	236	66	726
50+	85	217	462		764
Total	11829	24927	6850	668	44274

Item code 501

Table B-2--How often water was provided to cattle during the summer

Table B-2--Fréquence avec laquelle les bovins sont abreuvés en été

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Frequency / *Frequence*				All / *Tout*
	Once a day / *Une fois par jour*	Twice a day / *Deux fois par jour*	At will / *A volonté*	Other / *Autre*	
Head / *Pièces*	Number of operators / *Nombre d'exploitants*				
0		132	33		165
1-9	3926	23949	7110	842	35827
10-29	555	4252	1834	165	6806
30-49		269	457		726
50+		698	66		764
Total	4481	29299	9499	1007	44287

Item code 502

Table B-3--How often water was provided to cattle during the winter

Table B-3--Fréquence avec laquelle les bovins sont abreuvés en hiver

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Frequency / *Fréquence*				All / *Tout*
	Once a day / *Une fois par jour*	Twice a day / *Deux fois par jour*	At will / *A volonté*	Other / *Autre*	
Head / *Pièces*	Number of operators / *Nombre d'exploitants*				
0	132		33		165
1-9	27503	1893	4220	648	34265
10-29	5192	484	805	99	6581
30-49	316		362		678
50+	500	198	66		764
Total	33643	2575	5487	747	42453

Item code 503

Table B-4--Feedstuffs in rations fed to cows during April 1974

Table B-4--Eléments dans les rations de nourriture données aux bovins pendant avril 1974

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Feedstuff Element: Graze / *Pâture*	Green forage / *Fourrage vert*	Silage / *Nourriture préservée en silo*	Hay, other dry forage / *Foin ou autre fourrage sec*	Minerals / *Minéraux*	Concentrates / *Concentrés*	All / *Tout*	Total / *Total*
Head / *Pièces*	Number of operators / *Nombre d'exploitants*							
0	297	198		66		99	330	
1-9	28986	7911	247	13236	33	7092	32046	41820
10-29	5555	1509	33	2432		1853	6172	7256
30-49	424	203		368		401	726	726
50+	547	514	33	495	99	363	745	764
Total	35809	10335	313	16597	132	9808	40018	50565

Item codes 570, 571, 572, 573, 574, 575-579

Table B-5--Concentrates fed to cows and frequency of feeding concentrates during April 1974

Table B-5--Concentrés donnés aux vaches et fréquence d'utilisation des concentrés pendant avril 1974

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Concentrates fed / *Concentrés utilisés*					Frequency of feeding / *Fréquence d'utilisation*			All concentrate users / *Tous exploitants donnant des concentrés*	Total / *Total*
	Horse beans / *Féverole*	Barley / *Orge*	Bran / *Son*	Oats / *Avoine*	Other / *Autre*	Once a day / *Une fois par jour*	Twice a day / *Deux fois par jour*	Three or more times a day / *Trois fois ou plus par jour*		
Head / *Pièces*	Number of operators / *Nombre d'exploitants*									
0			99				99		99	
1-9	711	4044	5310	587	247	3561	3078	503	7092	41820
10-29	290	969	1285	282	68	903	801	16	1253	7256
30-49	52	118	250	184	151	165	132	52	401	726
50+	165	231	231	66	132	264	99		363	764
Total	1218	5362	7174	1119	598	4893	4210	571	9808	50565

Item codes 575, 576, 577, 578, 579, 580

Table B-6--Feedstuffs in rations fed to fattening cattle during April 1974

Table B-6--Eléments dans les rations de nourriture données aux bovins à engraisser pendant avril 1974

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Feedstuff — Element: Graze / *Pâture*	Green forage / *Fourrage vert*	Silage / *Nourriture préservée en silo*	Hay, other dry forage / *Foin ou autre fourrage sec*	Minerals / *Minéraux*	Concentrates / *Concentrés*	All / *Tout*	Total / *Total*
Head / *Pièces*	Number of operators / *Nombre d'exploitants*							
0								
1-9	1590	928	132	809		886	2372	41820
10-29	225	98		342		342	534	7256
30-49	66	118		85		170	203	726
50+	231	132		297	66	231	297	764
Total	2112	1276	132	1533	66	1629	3406	50565

Item codes 581, 582, 583, 584, 585, 586, 590

Table B-7--Concentrates fed to fattening cattle and frequency of feeding concentrates during April 1974

Table B-7--Concentrés donnés aux bovins à engraisser et fréquence d'utilisation des concentrés pendant avril 1974

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Concentrates fed / *Concentrés utilisés*					Frequency of feeding / *Fréquence d'utilisation*			All concentrate users / *Tous exploitants donnant des concentrés*	Total / *Total*
	Horse beans / *Féverole*	Barley / *Orge*	Bran / *Son*	Oats / *Avoine*	Other / *Autre*	Once a day / *Une fois par jour*	Twice a day / *Deux fois par jour*	Three or more times a day / *Trois fois ou plus par jour*		
Head / *Pièces*	Number of operators / *Nombre d'exploitants*									
0										
1-9	341	330	512	33	223	294	281		886	41820
10-29	197	132	129	99	33	33	162	49	342	7256
30-49	52	85	85	85	66	66		52	170	726
50+	231	198	33	66	132	165	132		231	764
Total	821	745	759	283	454	558	575	101	1629	50565

Item codes 586, 587, 588, 589, 590, 591

Table B-8--Cattle breeding and calf feeding practices

Table B-8--Pratiques de reproduction bovine et d'alimentation des veaux

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Breeding practices / *Pratiques de reproduction*: Cows left with bulls or other cows to detect heat / *Vaches libres avec taureaux ou autres vaches pour détecter les chaleurs*	Breeding practices: Artificial insemination used / *Insémination artificielle utilisée*	Calf feeding practices / *Pratiques d'alimentation des veaux*: Bucket fed / *Nourris au seau*	Calf feeding practices: Nurse / *Tétant leur mère*	Calf feeding practices: Bucket fed and nurse / *Nourris au seau et par les mères*	Calf feeding practices: Concentrate fed to calves / *Concentré donnés aux veaux*	Total / *Total*
Head / *Pieces*	Number of operators / *Nombre d'exploitants*						
0	66	33	33	99		66	
1-9	20759	1375	964	34652	16	2579	41820
10-29	4635	308	301	6486	52	612	7256
30-49	509	170	52	641	33	203	726
50+	500	297	99	665		363	764
Total	26468	2182	1449	42543	101	3823	50565

Item codes 525, 526, 527, 528, 423

Table B-9--Age at which calves were weaned

Table B-9--Age auquel les veaux sont sevrés

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Age / *Age*: 0-3 months / *0-3 mois*	3-6 months / *3-6 mois*	After 6 months / *Après 6 mois*	At the will of the mother / *A volonté de la mère*	All / *Tout*
Head / *Pièces*	Number of operators / *Nombre d'exploitants*				
0	33	33		99	165
1-9	348	2291	5637	26850	35159
10-29	125	247	1230	5138	6773
30-49	52	33	170	471	726
50+	33	231	165	335	764
Total	591	2835	7201	32892	43586

Item code 508

Table B-10--Age at which male and female calves were separated

Table B-10--Age auquel les veaux et les velles sont séparés

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Age when separated / *Age de séparation*: From birth / *Dès la naissance*	Before 6 months / *Avant 6 mois*	6-9 months / *6-9 mois*	9-12 months / *9-12 mois*	Never / *Jamais*	All / *Tout*
Head / *Pièces*	Number of operators / *Nombre d'exploitants*					
0	33				165	198
1-9	1372	2323	1938	459	28103	34196
10-29	445	49	197	151	5727	6569
30-49		66		104	556	726
50+	33	66	165	33	467	764
Total	1883	2504	2300	747	35018	42452

Item code 510

Table B-11--Principal cattle diseases reported

Table B-11--Principales maladies bovines rapportees

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Diseases / *Maladies*								Total / *Total*
	Septicemia / *Septicémie*	Piroplasmosis / *Piroplasmose*	Brucellosis / *Brucellose*	Tuberculosis / *Tuberculose*	Mammitis / *Mammite*	Anthrax / *Fièvre charbonneuse*	Foot-and-mouth disease / *Fièvre aphteuse*	Gastro-intestinal pests / *Verminoses gastro-intestinales*	
Head / *Pièces*	Number of operators / *Nombre d'exploitants*								
0				63				66	
1-9		66	291	825	412	750	349	1249	41820
10-29		96	99	423	237	118	52	406	7256
30-49				66	85	80			726
50+		66		66	165	137	66	99	764
Total		228	390	1444	899	1084	466	1820	50566

Item codes 516, 517, 518, 519, 520, 521, 522, 523, 423

Table B-12--Principal reasons reported for veterinary visits for cattle

Table B-12--Raisons principales rapportées pour des visites vétérinaires aux bovins

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Reason / *Raison*					All / *Tout*
	Disease / *Maladie*	Abortion / *Avortement*	Reproduction / *Reproduction*	Worms / *Vers*	Other / *Autres*	
Head / *Pièces*	Number of operators / *Nombre d'exploitants*					
0	33					33
1-9	8702	165	98		1075	10040
10-29	1808	66	179		515	2568
30-49	212	33	33		137	415
50+	547	33			99	679
Total	11303	297	309		1826	13735

Item code 513

Table B-13--Frequency of veterinarian visits for cattle during 1973

Table B-13--Fréquence des visites vétérinaires aux bovins pendant 1973

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Number of visits / *Nombre de visites*				All / *Tout*
	None / *Nulle*	1-5 / *1-5*	6-14 / *6-14*	15+ / *15+*	
Head / *Pieces*	Number of operators / *Nombre d'exploitants*				
0	33				33
1-9	7545	2461	99	66	10205
10-29	1543	750			2370
30-49	198	151	33		382
50+	184	231	33	198	679
Total	9503	3593	165	264	13669

Item code 512

Table B-14--Type of market used to sell cattle and distance to market

Table B-14--Sorte de marché utilisé pour vendre des bovins et distance du marché

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Type of market / *Sorte de marché*: Public / *Marché*	Private / *Chez des particuliers*	All / *Tout*	Distance to market / *Distance du marché*: 0-2 km. / *0-2 km.*	3-9 km. / *3-9 km.*	10-49 km. / *10-49 km.*	50+ km. / *50+ km.*	All / *Tout*
Head / *Pièces*				Number of operators / *Nombre d'exploitants*				
0	165		165			132		132
1-9	34471	553	35057	2490	9342	22296	1222	35350
10-29	6580	226	6806	455	1152	4915	250	6773
30-49	693	33	726	33	66	594		693
50+	646	118	784	99	283	231	66	679
Total	42554	930	43517	3077	10843	28168	1538	43626

Item codes 504, 505

Table B-15--Methods used to transport cattle to market

Table B-15--Moyens utilisés pour transporter les bovins au marché

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Means of transport / *Moyens de transport*: On foot / *à pied*	Animal traction / *Traction animale*	Mechanical traction / *Traction mécanique*	All / *Tout*
Head / *Pièces*	Number of operators / *Nombre d'exploitants*			
0	99		33	132
1-9	26528	1036	7621	35218
10-29	3924	162	2542	6662
30-49	405		288	693
50+	349	33	297	679
Total	31304	1232	10781	43383

Item code 507

SECTION C
SECTION C

Table C-1--Methods used to provide water to sheep

Moyens utilisés pour abreuver les ovins

Table C-2--How often water was provided to sheep during the summer

Fréquence avec laquelle ovins sont abreuvés en été

Table C-3--How often water was provided to sheep during the winter

Fréquence avec laquelle ovins sont abreuvés en hiver

Table C-4--Feedstuffs in rations fed to sheep during April 1974

Eléments dans les rations de nourriture données aux ovins pendant avril 1974

Table C-5--Concentrates fed to sheep and frequency of feeding concentrates during April 1974

Concentres donnes aux ovins et fréquence d'utilisation des concentres pendant avril 1974

Table C-6--Sheep breeding practices

Pratiques de reproduction ovine

Table C-7--Age at which lambs were weaned

Age auquel les agneaux sont sevrés

Table C-8--Age at which male and female lambs were separated

Age auquel les agneaux et les agnelles sont séparés

Table C-9--Principal sheep diseases reported

Principales maladies ovines rapportées

Table C-10--Principal reasons reported for veterinary visits for sheep

Raisons principales rapportées pour des visites veterinaires aux ovins

Table C-11--Frequency of veterinarian visits for sheep during 1973

Fréquence des visites vétérinaires aux ovins pendant 1973

Table C-12--Type of market used to sell sheep and distance to market

Sorte de marché utilisé pour vendre les ovins et distance du marché

Table C-13--Methods used to transport sheep to market

Moyens utilisés pour transporter les ovins au marche

Table C-1--Methods used to provide water to sheep

Table C-1--Moyens utilisés pour abreuver les ovins

Number of sheep in operation / *Nombre d'ovins dans l'exploitation*	Method / *Moyen*: Bucket / *Seau*	River / *Rivière*	Common water tank / *Abreuvoir commun*	Automatic / *Abreuvoir automatique*	All / *Tout*
Head / *Pièces*	Number of operators / *Nombre d'exploitants*				
0		33			33
1-19	5524	12805	3180	164	21673
20-49	1875	6776	1657	33	10374
50-199	1190	3908	672	82	5851
200-499	80	739	349	33	1201
500 +		165	99	33	297
Total	8669	24426	5957	344	39429

Item code 541

Table C-2--How often water was provided to sheep during the summer

Table C-2--Fréquence avec laquelle les ovins sont abreuvés en été

Number of sheep in operation / *Nombre d'ovins dans l'exploitation*	Frequency / *Fréquence*: Once a day / *Une fois par jour*	Twice a day / *Deux fois par jour*	At will / *A volonté*	Other / *Autre*	All / *Tout*
Head / *Pièces*	Number of operators / *Nombre d'exploitants*				
0	33				33
1-19	8363	9754	3532	231	21881
20-49	3901	4610	1511	285	10308
50-199	2217	2737	864	99	5917
200-499	640	250	311		1201
500 +	198	132			330
Total	15352	17484	6219	615	39670

Item code 542

Table C-3--How often water was provided to sheep during the winter

Table C-3--Fréquence avec laquelle les ovins sont abreuvés en hiver

Number of sheep in operation / *Nombre d'ovins dans l'exploitation*	Frequency / *Fréquence*				All / *Tout*
	Once a day / *Une fois par jour*	Twice a day / *Deux fois par jour*	At will / *A volonté*	Other / *Autre*	
Head / *Pièces*	Number of operators / *Nombre d'exploitants*				
0					
1-19	9623		3032	522	13177
20-49	3870	165	1615	363	6014
50-199	2386	78	964	33	3461
200-499	231		448		679
500 +	165				165
Total	16275	243	6059	918	23496

Item code 543

Table C-4--Feedstuffs in rations fed to sheep during April 1974

Table C-4--Eléments dans les rations de nourriture données aux ovins pendant avril 1974

Number of sheep in operation / *Nombre d'ovins dans l'exploitation*	Feedstuff / *Elément*							Total / *Total*
	Graze / *Pâture*	Green forage / *Fourrage vert*	Silage / *Nourriture préservée en silo*	Hay, other dry forage / *Foin ou autre fourrage sec*	Minerals / *Minéraux*	Concentrates / *Concentrés*	All / *Tout*	
Head / *Pièces*	Number of operators / *Nombre d'exploitants*							
0	115			33			115	
1-19	17002	3026	132	4775		1836	18781	25584
20-49	8344	1049	66	2774		1368	9290	11488
50-199	4065	811	33	1642		1482	5022	6368
200-499	820	132		448		330	1084	1234
500 +	297	66		132		33	297	330
Total	30643	5084	231	9804		5049	34589	45005

Item codes 592, 593, 594, 595, 596, 597, 601

Table C-5--Concentrates fed to sheep and frequency of feeding concentrates during April 1974

Table C-5--Concentrés donnés aux ovins et fréquence d'utilisation des concentrés pendant avril 1974

Number of sheep in operation / *Nombre d'ovins dans l'exploitation*	Concentrates fed / *Concentrés utilisés*					Frequency of feeding / *Fréquence d'utilisation*			All concentrate users / *Tous exploitants donnant des concentrés*	Total / *Total*
	Horse beans / *Féverole*	Barley / *Orge*	Bran / *Son*	Oats / *Avoine*	Other / *Autre*	Once a day / *Une fois par jour*	Twice a day / *Deux fois par jour*	Three or more times a day / *Trois fois ou plus par jour*		
Head / *Pièces*	Number of operators / *Nombre d'exploitants*									
0						33				
1-19	132	1110	891	85	184	2267	531	33	1836	25584
20-49	66	1302	700	33		1676	164		1368	11488
50-199	66	1416	530	66	33	1149	264	66	1482	6368
200-499	66	264	132	33	33	330			330	1234
500 +					33	66			33	330
Total	330	4091	2254	217	283	5522	959	99	5049	45005

Item codes 597, 598, 599, 600, 601, 602, 425

Table C-6--Sheep breeding practices

Table C-6--Pratiques de reproduction ovine

Number of sheep in operation / *Nombre d'ovins dans l'exploitation*	Ewes in heat detected by: / *Brebis en chaleur détectées par:* Old ram method / *Bout-en-train*	Physiological signs / *Signes physiologiques*	Farmer aids in ewe breeding / *Lutte dirigée utilisée*	Farmer does not aid in ewe breeding 1/ / *Lutte dirigée non utilisée 1/*	Total / *Total*
Head / *Pièces*	Number of operators / *Nombre d'exploitants*				
0		148	66		
1-19	230	21402	13230		25584
20-49	297	9935	6653		11488
50-199	198	5653	3512		6368
200-499	146	1022	758		1234
500 +	66	264	297		330
Total	937	38423	24516		45005

Item codes 560, 561, 425

1/ Not available

1/ Non disponible

Table C-7--Age at which lambs were weaned

Table C-7--Age auquel les agneaux sont sevrés

Number of sheep in operation / *Nombre d'ovins dans l'exploitation*	Age / *Age*: 0-6 weeks / *0-6 semaines*	7-12 weeks / *7-12 semaines*	After 12 weeks / *Après 12 semaines*	At the will of the mother / *A volonté de la mère*	All / *Tout*
Head / *Pièces*	Number of operators / *Nombre d'exploitants*				
0					
1-19	68	1874	6677	12624	21360
20-49	379	653	3998	4845	9907
50-199	322	495	2842	2258	5917
200-499	99	126	580	363	1168
500 +		66	99	132	297
Total	868	3214	14196	20222	38650

Item code 549

Table C-8--Age at which male and female lambs were separated

Table C-8--Age auquel les agneaux et les agnelles sont séparés

Number of sheep in operation / *Nombre d'ovins dans l'exploitation*	Age / *Age*: At birth / *dès la naissance*	When weaned / *au sevrage*	One year / *1 an*	Never / *Jamais*	All / *Tout*
Head / *Pièces*	Number of operators / *Nombre d'exploitants*				
0					
1-19	198	2573	462	17217	21244
20-49	52	179	99	9400	10094
50-199	33	264	165	4731	5688
200-499		132	33	877	1075
500 +				297	297
Total	283	3148	759	32523	38398

Item code 551

Table C-9--Principal sheep diseases reported

Table C-9--Principales maladies ovines rapportées

Number of sheep in operation / *Nombre d'ovins dans l'exploitation*	Diseases / *Maladies*						Total / *Total*
	Scabies / *Gale*	Sheeppox / *Clavelée*	Entero-toxemia / *Entéro-toxemie*	Staggers / *Tournis*	Hamra / *Hamra*	Gastro-intestinal pests / *Verminoses gastro-intestinales*	
Head / *Pièces*	Number of operators / *Nombre d'exploitants*						
0							
1-19	615	766	66	33	758	753	25584
20-49	829	588	351	466	582	739	11488
50-199	608	390	468	211	721	775	6368
200-499	93		52		85	66	1234
500 +	33					99	330
Total	2179	1745	938	710	2146	2433	45005

Item codes 554, 555, 556, 557, 558, 559, 425

Table C-10--Principal reasons reported for veterinary visits for sheep

Table C-10--Raisons principales rapportées pour des visites vétérinaires aux ovins

Number of sheep in operation / *Nombre d'ovins dans l'exploitation*	Reason / *Raison*					All / *Tout*
	Disease / *Maladie*	Abortion / *Avortement*	Reproduction / *Reproduction*	Worms / *Vers*	Other / *Autres*	
Head / *Pièces*	Number of operators / *Nombre d'exploitants*					
0	—					
1-19	3368	66			687	4121
20-49	2948				471	3419
50-199	2801	33			297	3131
200-499	560			33	132	725
500 +	66				66	132
Total	9742	99		33	1654	11528

Item code 553

Table C-11--Frequency of veterinarian visits for sheep during 1973

Table C-11--Fréquence des visites vétérinaires aux ovins pendant 1973

Number of sheep in operation / *Nombre d'ovins dans l'exploitation*	Number of visits / *Nombre de visites*				All / *Tout*
	None / *Nulle*	1-5 / *1-5*	6-14 / *6-14*	15+ / *15+*	
Head / *Pièces*	Number of operators / *Nombre d'exploitants*				
0					
1-19	3261	821			4082
20-49	2654	831		33	3518
50-199	2457	563			3098
200-499	494	99	33	99	725
500 +	66	33	33		132
Total	8932	2347	66	132	11555

Item code 552

Table C-12--Type of market used to sell sheep and distance to market

Table C-12--Sorte de marché utilisé pour vendre les ovins et distance du marché

Number of sheep in operation / *Nombre d'ovins dans l'exploitation*	Type of market / *Sorte de marché*: Public / *Marché*	Private / *Chez des particuliers*	All / *Tout*	Distance to market / *Distance au marche*: 0-2 km. / *0-2 km.*	3-9 km. / *3-9 km.*	10-49 km. / *10-49 km.*	50+ km. / *50+ km.*	All / *Tout*
Head / *Pièces*				Number of operators / *Nombre d'exploitants*				
0								
1-19	21475	161	21669	623	5910	14932	269	21734
20-49	10228	82	10310	553	2132	7304	417	10440
50-199	5739	212	5950	259	1471	3985	184	5898
200-499	1069	99	1168	132	151	787	99	1168
500 +	297	33	330		99	198		297
Total	38809	587	39429	1567	9761	27206	970	39538

Item codes 544, 545

Table C-13--Methods used to transport sheep to market

Table C-13--Moyens utilisés pour transporter les ovins au marché

Number of sheep in operation / *Nombre d'ovins dans l'exploitation*	Transportation / *Transportation*: On foot / *à pied*	Animal traction / *Traction animale*	Mechanical traction / *Traction mécanique*	All / *Tout*
Head / *Pièces*	Number of operators / *Nombre d'exploitants*			
0				
1-19	16879	1175	3554	21641
20-49	8240	862	1304	10407
50-199	3652	495	1673	5820
200-499	396		739	1135
500 +	99	33	165	297
Total	29266	2565	7436	39300

Item code 547

SECTION D
SECTION D

Table D-1--Age of cattle operators

Age des exploitants de bovins

Table D-2--Education of cattle operators

Education des exploitants de bovins

Table D-3--Languages read by cattle operators

Langues lues par les exploitants de bovins

Table D-4--Information media familiar to cattle operators

Moyens de vulgarisation connus par les exploitants de bovins

Table D-5--Information media which cattle operators preferred

Moyens de vulgarisation préférés par les exploitants de bovins

Table D-6--Livestock raising information received by cattle operators

Renseignements sur l'élevage reçus par les exploitants de bovins

Table D-7--Livestock raising information most desired by cattle operators

Renseignements sur l'élevage les plus désirés par les exploitants de bovins

Table D-8--Farmer assistance projects which contacted cattle operators

Projets d'assistance agricole qui ont contacté les exploitants de bovins

Table D-9--Evaluation of livestock and artificial insemination projects by cattle operators

Evaluation du projet d'augmentation de la production animale et projet d'insemination artificielle par les exploitants de bovins

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Table D-15--Cattle by classes, ditch cattle and deaths reported by cattle operators

Bovins par classe, bovins des fossés, et morts rapportés par les exploitants de bovins

Tabld D-16--Specified livestock and crop items reported by cattle operators

Rubriques spécifiées de cheptel et de cultures rapportées par les exploitants de bovins

Table D-17--Land by tenure and in selected crops reported by cattle operators

Terres par faire-valoir et plantées en certaines cultures choisies rapportées par les exploitants de bovins

Table D-1--Age of cattle operators

Table D-1--Age des exploitants de bovins

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Years / *Ans*					Total / *Total*
	Less than 31 / *Moins de 31*	31 to 40 / *31 à 40*	41 to 50 / *41 à 50*	51 to 60 / *51 à 60*	More than 60 / *Plus que 60*	
Head / *Pièces*	Number of operators / *Nombre d'exploitants*					
0	3992	8748	10756	8452	6185	38133
1-9	2800	9654	11185	10269	8176	42084
10-29	290	1492	1845	1983	1646	7256
30-49	51	132	165	260	118	726
50+	33	132	265	150	184	764
Total	7166	20158	24216	21114	16308	89215

Item code 691, 400

Table D-2--Education of cattle operators

Table D-2--Education des exploitants de bovins

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Years of school / *Annees passees a l'ecole*						Total / *Total*
	None / *Nulle*	Less than five years / *Moins de cinq années*	5 to 8 years / *5 à 8 années*	9 to 10 years / *9 à 10 années*	11 to 13 years / *11 à 13 années*	More than 13 years / *Plus que 13 années*	
Head / *Pièces*	Number of operators / *Nombre d'exploitants*						
0	28141	5823	2356	804	545	464	38133
1-9	30696	6822	2751	1273	267	274	42084
10-29	4355	1571	649	470	93	118	7256
30-49	339	200	84		103		726
50+	250	167	248	66	33		764
Total	63781	14583	6088	2613	1041	856	88962

Item codes 692, 400

Table D-3--Languages read by cattle operators

Table D-3--Langues lues par les exploitants de bovins

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Language / *Langue*: Arabic / *Arabe*	French / *Français*	Other / *Autre*	Arabic and French / *Arabe et français*	Arabic and other / *Arabe et autres*	French and other / *Français et autres*	All / *Tout*
Head / *Pièces*	Number of operators / *Nombre d'exploitants*						
0	37715	2963	345	3095	291	159	38166
1-9	41606	1608	52	1592	52	52	41787
10-29	7205	584	78	584	78	78	7256
30-49	726	255	52	255	52	52	726
50+	764	316		316			764
Total	88015	5727	527	5843	473	341	88698

Item codes 693, 694, 695

Table D-4--Information media familiar to cattle operators

Table D-4--Moyens de vulgarisation connus par les exploitants de bovins

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Media / *Moyens*									
	Radio / *Radio*	Television / *Télévision*	Newspaper / *Journaux*	Bulletins / *Bulletins*	Extension agencies / *Agences de vulgarisation*	Meetings and seminars / *Réunions et séminaires*	Film projections / *Projections de films*	Other / *Autre*	No answer / *Nulle réponse*	All / *Tout*
Head / *Pièces*	Number of operators / *Nombre d'exploitants*									
0	5911	446	52		91	184	32		10652	16968
1-9	9187	487	233	32	1425	489	198	197	24934	34670
10-29	2928	387	237	111	550	144	111	66	3487	6441
30-49	343	203	110	52	234	52	33	66	228	726
50+	415	151	151	99	198	264		66	118	764
Total	18697	1784	791	295	2500	993	375	395	39616	59528

Item codes 610, 611, 612, 613, 614, 615, 616, 617, 618

Table D-5--Information media which cattle operators preferred

Table D-5--Moyens de vulgarisation préférés par les exploitants de bovins

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Media / *Moyens*									
	Radio / *Radio*	Television / *Télévision*	Newspaper / *Journaux*	Bulletins / *Bulletins*	Extension agencies / *Agences de vulgarisation*	Meetings and seminars / *Réunions et séminaires*	Film projections / *Projections de films*	Other / *Autre*	No answer / *Nulle réponse*	All / *Tout*
Head / *Têtes*					Number of operators / *Nombre d'exploitants*					
0	2110	85	127	132	2444	304	132		11553	16439
1-9	4205	328	250	33	2234	549	263	164	25336	32468
10-29	1185	170		66	670	126	33	111	3883	6145
30-49	80	85			118		118		291	693
50-99	99	33			231	198		52	250	764
100 and more	7680	701	377	231	5697	1178	546	327	41313	56508
Total number of observations										

Item codes 620, 621, 622, 623, 624, 625, 626, 627, 628.

Table D-6--Livestock raising information received by cattle operators

Table D-6--Renseignements sur l'élevage reçus par les exploitants de bovins

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Information / *Renseignements*									All / *Tout*
	Herdbook / *Herdbook*	Marketing / *Commercialisation*	Reproduction / *Reproduction*	Feeding and nutrition / *Alimentation*	Forage production / *Production fourragère*	Veterinarian services / *Services sanitaires*	Construction / *Construction*	Feed storage / *Préservation de nourriture*	Other / *Autre*	
Head / *Pièces*	Number of operators / *Nombre d'exploitants*									
0	66		186	252		52				557
1-9	165	429	882	1163	406	527	113	82	159	2941
10-29		33	197	329	214	49		159	175	745
30-49	52		118	85	52				33	170
50+	132	165	66	231	165	132			66	297
Total	415	627	1450	2060	837	759	113	241	433	4709

Item codes 630, 631, 632, 633, 634, 635, 636, 637, 638

Table D-7--Livestock raising information most desired by cattle operators

Table D-7--Renseignements sur l'élevage les plus désirés par les exploitants de bovins

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Information / *Renseignements*: Herdbook / *Herdbook*	Marketing / *Commercialisation*	Reproduction / *Reproduction*	Feeding and nutrition / *Alimentation*	Forage production / *Production fourragère*	Veterinarian services / *Services sanitaires*	Construction / *Construction*	Feed storage / *Préservation de nourriture*	Other / *Autre*	All / *Tout*
Head / *Pièces*	Number of operators / *Nombre d'exploitants*									
0	66		33	132		52				283
1-9	132	66	832	1032	591	263	624	181	115	2655
10-29		66	461	313	275	78	99		33	889
30-49			33						33	33
50+	66	132	99	198	165	132				330
Total	264	264	1458	1675	1031	525	723	181	181	4190

Item codes 640, 641, 642, 643, 644, 645, 646, 647, 648

Table D-8--Farmer assistance projects which contacted cattle operators

Table D-8--Projets d'assistance agricole qui ont contacté les exploitants de bovins

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Project / *Projet*: Livestock / *Elevage*	Artificial insemination / *Insémination artificielle*	Record keeping / *Contrôle de performance*	Other / *Autre*	All / *Tout*
Head / *Pièces*	Number of operators / *Nombre d'exploitants*				
0	66	33		52	151
1-9	250	132		429	838
10-29	111	78	68	159	286
30-49	85	52	52	52	85
50+	99	165	132	33	363
Total	611	460	252	725	1723

Item codes 650, 651, 652, 653

Table D-9--Evaluation of livestock and artificial insemination projects by cattle operators

Table D-9--Evaluation du projet d'augmentation de la production animale et projet d'insémination artificielle par les exploitants de bovins

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Livestock project / *Projet élevage* — Evaluation / *Evaluation* — Very helpful / *A rendu grand service*	Helpful / *A rendu service*	Not helpful / *N'a pas rendu service*	All / *Tout*	Artificial insemination / *Projet d'insemination artificielle* — Evaluation / *Evaluation* — Very helpful / *A rendu grand service*	Helpful / *A rendu service*	Not helpful / *N'a pas rendu service*	All / *Tout*
Head / *Pièces*	Number of operators / *Nombre d'exploitants*							
0								
1-9	33	184	33	250	66			66
10-29	78		33	111			78	78
30-49	52		33	85		52		52
50+		99	33	132	99	66		165
Total	163	263	132	578	165	118	78	361

Item codes 654, 655

Table D-10--Evaluation of record keeping and miscellaneous government projects by cattle operators

Table D-10--Evaluation du projet de contrôle de performance et des projets variés par les exploitants de bovins

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Record keeping / *Projet de contrôle de performance* — Evaluation / *Evaluation*: Very helpful / *A rendu grand service*	Helpful / *A rendu service*	Not helpful / *N'a pas rendu service*	All / *Tout*	Miscellaneous government projects / *Projets gouvernementaux variés* — Evaluation / *Evaluation*: Very helpful / *A rendu grand service*	Helpful / *A rendu service*	Not helpful / *N'a pas rendu service*	All / *Tout*
Head / *Pièces*	Number of operators / *Nombre d'exploitants*							
0								
1-9								
10-29	78			78	132	33	330	495
30-49		52		52	93	66		159
50+		132		132		52		52
Total	78	184		262	225	151	330	706

Item codes 656, 657

Table D-11--Household members, family and hired workers reported by cattle operators

Table D-11--Membres de ménage, famille et ouvriers rapportes par les exploitants de bovins

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Household members / *Membres de ménage*	Family workers 1/ / *Membres de famille au travail 1/*	Hired workers / *Ouvriers*: Full time all work / *Plein temps pour tous travaux*		Full time livestock / *Plein temps pour l'élevage*		Temporary / *Temporaire*		Total farms / *Total de fermes*
			Men / *Hommes*	Women / *Femmes*	Men / *Hommes*	Women / *Femmes*	Men / *Hommes*	Women / *Femmes*	
Head / *Pièces*	Number of persons / *Nombre de personnes*								
0	241816	52232	2379	1702	327		15264	2672	38133
1-9	319126	70633	8891	1113	2973	33	24970	2678	42084
10-29	69036	17509	6036	851	2635	115	7366	4315	7256
30-49	7789	1807	4294	260	840	250	1586		726
50+	7363	1531	8468	1773	1325	33	3498	4158	764
Total	645130	143712	30068	5699	8100	431	52684	13823	88962

Item codes 931, 932, 935, 936, 937, 938, 939, 941, 400

1/ Household members including operator working more than two hours per day on farm.

1/ Membres de ménages y compris l'exploitant qui travaillent plus de deux heures par jour sur l'exploitation.

Table D-12--Labor information reported by cattle operators

Table D-12--Renseignements sur la main d'oeuvre rapportés par les exploitants de bovins

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Operators who worked off farm / *Exploitants qui travaillaient hors de leurs fermes*	Operators who reported: / *Exploitants qui ont rapporté:* Full time hired workers in April / *Ouvriers à plein temps en avril*	Full time hired livestock workers in April / *Ouvriers à plein temps qui s'occupaient de l'élevage en avril*	Temporary hired workers in April / *Ouvriers temporaires en avril*	Hired workers or intended use of hired workers in 1974 / *Ouvriers ou intention d'employer des ouvriers en 1974*	Total farms / *Total de fermes*	All workers in April: / *Tous ouvriers en avril:* Full time / *A plein temps*	Full time livestock / *A plein temps sur l'élevage*	Temporary / *Temporaire*
Head / *Pièces*	Number of operators / *Nombre d'exploitants*						Number of persons / *Nombre de personnes*		
0	11690	1145	275	2377	3977	38133	4081	327	17936
1-9	8360	4275	2694	4711	7669	42084	10004	3006	27648
10-29	1265	2491	1825	1532	3081	7256	6887	2750	11681
30-49	66	387	387	236	354	726	4554	1090	1586
50+		679	646	363	613	764	10241	1358	7656
Total	21380	8977	5826	9219	15694	88962	35767	8531	66507

Item codes 944, 946, 947, 948, 945, 400, 951, 952, 953

Table D-13--Credit use by cattle operators and sources of credit

Table D-13--Emploi du crédit par les exploitants de bovins et sources de crédit

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Credit users / *Exploitants qui se servent de crédit*	Source of credit / *Source de crédit*: Bank / *Banque*	Local cashier's office / *Caisse locale*	Auto financing / *Auto financement*	Neighbor / *Voisin*	Livestock and pasturage project / *Office de l'élevage et des pâturages*	Other loan services / *Autres services de prêt*	Other / *Autre*	Total / *Total*
Head / *Pièces*	Number of operators / *Nombre d'exploitants*								
0	935	334	118	198	33	33	186		38133
1-9	2243	1095	264	165	66	49	439	99	42084
10-29	949	559	159	132			66	66	7256
30-49	203	203						52	726
50+	316	250		66					764
Total	4646	2441	541	561	99	82	691	217	88962

Item codes 683, 684, 685, 686, 687, 688, 689

Table D-14--Mechanization, use of credit and ability to obtain seed reported by cattle operators

Table D-14--Mécanisation, emploi du crédit, et approvisionnements en semenees rapportés par les exploitants de bovins

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Operators who reported: / *Exploitants qui ont rapporté:* Machines used as principle source of traction / *Source principale de traction est mécanique*	Credit used in farming operation / *Crédit utilisé dans l'exploitation agricole*	Unable to obtain enough seed / *Incapable d'obtenir assez de semences*	Total cattle farm / *Total d'exploitations bovins*
Head / *Pièces*	Number of operators / *Nombre d'exploitants*			
0	17627	1125	15539	
1-9	21257	2178	17811	41820
10-29	4329	850	3386	7256
30-49	599	151	316	726
50 +	679	283	448	764
Total	44491	4588	37500	50565

Item codes 423, 697, 698, 699

Table D-15--Cattle by classes, ditch cattle and deaths reported by cattle operators

Table D-15--Bovins par classe, bovins des fossés, et morts rapportés par les exploitants de bovins

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Class / *Classe*: Cows / *Vaches*	Calves < 1 year / *Veaux < 1 an*	Heifers 1-2 yrs. / *Génisses 1-2 ans*	Bulls and steers 1-2 yrs. / *Taureaux et boeufs 1-2 ans*	Breeding bulls / *Taureaux destinés à la reproduction*	Other cattle / *Autres bovins*	Total cattle / *Total de bovins*	Ditch cattle 1/ / *Bovins des fossés 1/*	Cattle deaths / *Bovins morts*
Head / *Pièces*	Number of head / *Nombre de pieces*								
0								99	33
1-9	85112	53584	8760	6150	3795	11814	169215	61844	8504
10-29	49700	30058	8848	5472	3552	7924	105555	33710	10817
30-49	12969	6136	2515	3204	571	1230	26627	3300	467
50+	38071	23426	8757	6831	2146	330	79561	12837	1862
Total	185853	113204	28880	21658	10065	21298	380958	111791	21683

Item codes 451, 452, 453, 454, 455, 456, 450, 457, 461

1/ Cattle that grazed the roadside as the main source of pasture. Included in class information.

1/ Bovins qui paissaient sur le bord des routes comme source principale de paturage. Compris dans les renseignements selon la classe.

Table D-16--Specified livestock and crop items reported by cattle operators

Table D-16--Rubriques spécifiées de cheptel et de cultures rapportées par les exploitants de bovins

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Crops / *Cultures*: Cereals / *Céréales*	Crops / *Cultures*: Forages / *Fourrages*	All land in farm / *Toutes terres exploitées*	Cattle / *Bovins*: All / *Tout*	Cattle / *Bovins*: Cows / *Vaches*	Cattle / *Bovins*: Ditch cattle 1/ / *Bovins des fossés* 1/	Sheep / *Ovins*: All / *Tout*	Sheep / *Ovins*: Ewes 2/ / *Brebis* 2/	Sheep / *Ovins*: Ditch sheep 1/ / *Ovins des fossés* 1/
Head / *Pièces*	Number of hectares / *Nombre d'hectares*					Number of head / *Nombre de pièces*			
0	129096	19823	293441			99	390821		46126
1-9	235285	27025	493835	169218	85114	61844	681932		181270
10-29	118972	15601	282316	105555	49700	33710	429180		81412
30-49	46658	7833	91032	26627	12969	3300	129672		9603
50+	104483	33324	273807	79561	38071	12837	176336		51843
Total	634495	103605	1434430	380961	185855	111791	1807938		370253

Item codes 414, 417, 401, 450, 451, 457, 470, 471, 479

1/ Livestock that grazed the roadside as the main source of pasture. Included in class information.

1/ Bétail qui paissaient sur le bord des routes comme source principale de pâturage. Compris dans les renseignements selon la classe.

2/ Not available

2/ Non disponible

Table D-17--Land by tenure and in selected crops reported by cattle operators

Table D-17--Terres par faire-valoir et plantées en certaines cultures choisies rapportées par les exploitants de bovins

Number of cattle in operation / *Nombre de bovins dans l'exploitation*	Land tenure / *Faire valoir des terres*: Owned / *En propriété*	Rented / *En location*	Managed / *En gérance*	Held in association / *En association*	Other / *Autre*	Total land in: / *Total des terres en:*: Cattle farms / *Exploitations bovines*	Cereals / *Céréales*	Gorth / *Gorth*	Other forages / *Autres fourrages*
Head / *Pièces*	Number of hectares / *Nombre d'hectares*								
0	241963	15920	592	29684	2749	293443	129096	3690	16133
1-9	370426	37760	1357	55291	25009	493835	235285	17816	9208
10-29	157651	68791	235	48812	3449	282315	118972	11115	4486
30-49	33746	3548	1963	50891	25	91032	46658	6577	1256
50+	207638	33320	8062	19285	4955	273807	104483	21361	11963
Total	1011425	159339	12260	203964	36188	1434431	634495	60560	43046

Item codes 402, 403, 404, 405, 406, 401, 414, 415, 416

SECTION E
SECTION E

Table E-1--Age of sheep operators

Age des exploitants d'ovins

Table E-2--Education of sheep operators

Education des exploitants d'ovins

Table E-3--Languages read by sheep operators

Langues lues par les exploitants d'ovins

Table E-4--Information media familiar to sheep operators

Moyens de vulgarisation connus par les exploitants d'ovins

Table E-5--Information media which sheep operators preferred

Moyens de vulgarisation préférés par les exploitants d'ovins

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Renseignements sur l'élevage reçus par les exploitants d'ovins

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Evaluation du projet d'augmentation de la production animale et projet d'insemination artificielle par les exploitants d'ovins

Table E-10--Evaluation of record keeping and miscellaneous government projects by sheep operators

Evaluation du projet de controle de performance et des projet varies par les exploitants d'ovins

Table E-11--Household members, family and hired workers reported by sheep operators

Membres de ménage, famille, et ouvriers rapportés par les exploitants d'ovins

Table E-12--Labor information reported by sheep operators

Renseignements sur la main d'oeuvre rapportes par les exploitants d'ovins

Table E-13--Credit use by sheep operators and sources of credit

Emploi du crédit par les exploitants d'ovins et sources de credit

Table E-14--Miscellaneous livestock facilities, mechanization, use of credit, and ability to obtain seed reported by sheep operators

Facilites de l'élevage variées, mécanisation, emploi du crédit, et approvisionnements en semences rapportes par les exploitants d'ovins

Table E-15--Sheep by classes, ditch sheep, and sheep sacrificed reported by sheep operators

Ovins par classe, ovins des fossés, et ovins sacrifiés rapportés par les exploitants d'ovins

Table E-16--Specified livestock and crop items reported by sheep operators

Rubriques spécifiées de cheptel et de cultures rapportées par les exploitants d'ovins

Table E-17--Land by tenure and in selected crops reported by sheep operators

Terres par faire-valoir et plantées en certaines cultures choisies rapportées par les exploitants d'ovins

Table E-1--Age of sheep operators

Table E-1--Age des exploitants d'ovins

Number of sheep in operation / *Nombre d'ovins dans l'exploitation*	Years / *Ans*					Total / *Total*
	Less than 31 / *Moins de 31*	31 to 40 / *31 à 40*	41 to 50 / *41 à 50*	51 to 60 / *51 à 60*	More than 60 / *Plus de 60*	
Head / *Pièces*	Number of operators / *Nombre d'exploitants*					
0	3780	10543	11976	9205	8189	43693
1-19	2175	6160	6778	6749	3722	25584
20-49	615	1796	3103	3323	2651	11488
50-199	529	1347	1837	1441	1478	6632
200-499	34	246	389	329	236	1234
500 +	33	66	132	66	33	330
Total	7166	20158	24216	21114	16308	88962

Item code 691, 400

Table E-2--Education of sheep operators

Table E-2--Education des exploitants d'ovins

Number of sheep in operation / *Nombre d'ovins dans l'exploitation*	Years of school / *Années passées à l'école*						Total / *Total*
	None / *Nulle*	Less than five years / *Moins de cinq années*	5 to 8 years / *5 à 8 années*	9 to 10 years / *9 à 10 années*	11 to 13 years / *11 à 13 années*	More than 13 years / *Plus de 13 années*	
Head / *Pièces*	Number of operators / *Nombre d'exploitants*						
0	31248	7240	3214	1034	551	406	43693
1-19	19185	3867	1639	674	118	101	25584
20-49	8610	1541	525	544	169	99	11488
50-199	3853	1603	526	263	137	250	6632
200-499	621	299	184	65	65		1234
500 +	264	33		33			330
Total	63781	14583	6088	2613	1041	856	88962

Item codes 692, 400

Table E-3--Languages read by sheep operators

Table E-3--Langues lues par les exploitants d'ovins

Number of sheep in operation *Nombre d'ovins dans l'exploitation*	Language *Langue* Arabic *Arabe*	French *Français*	Other *Autre*	Arabic and French *Arabe et français*	Arabic and other *Arabe et autres*	French and other *Français et autres*	All *Tout*
Head *Pièces*	Number of operators *Nombre d'exploitants*						
0	43293	3807	254	3890	167	68	43726
1-19	25353	805	52	838	85	52	25584
20-49	11488	370	52	370	52	52	11488
50-199	6316	495	169	495	169	169	6335
200-499	1234	184		184			1234
500 +	330	66		66			330
Total	88015	5727	527	5843	473	341	88698

Item codes 693, 694, 695

Table E-4--Information media familiar to sheep operators

Table E-4--Moyens de vulgarisation connus par les exploitants d'ovins

Number of sheep in operation / *Nombre d'ovins dans l'exploitation*	Media / *Moyens*									All / *Tout*
	Radio / *Radio*	Television / *Télévision*	Newspaper / *Journaux*	Bulletins / *Bulletins*	Extension agencies / *Agences de vulgarisation*	Meetings and seminars / *Réunions et séminaires*	Film projections / *Projections de films*	Other / *Autre*	No answer / *Nulle réponse*	
Head / *Pièces*	Number of operators / *Nombre d'exploitants*									
0	4726	718	233	33	755	415	33	66	14591	19818
1-19	6419	240	66	52	462	132	33	33	15855	22326
20-49	4280	356	137	33	392	151	66	98	5600	10237
50-199	2538	305	256	78	608	229	177	99	2957	5643
200-499	636	165	66	99	217	33	66	99	448	1234
500 +	99		33		66	33			165	330
Total	18697	1784	791	295	2500	993	375	395	39616	59588

Item codes 610, 611, 612, 613, 614, 615, 616, 617, 618

Table E-5--Information media which sheep operators preferred

Table E-5--Moyens de vulgarisation préférés par les exploitants d'ovins

Number of sheep in operation / *Nombre d'ovins dans l'exploitation*	Media / *Moyens*									All / *Tout*
	Radio / *Radio*	Television / *Télévision*	Newspaper / *Journaux*	Bulletins / *Bulletins*	Extension agencies / *Agences de vulgarisation*	Meetings and seminars / *Réunions et séminaires*	Film projections / *Projections de films*	Other / *Autre*	No answer / *Nulle réponse*	
Head / *Pièces*	Number of operators / *Nombre d'exploitants*									
0	1815	362	165	33	1399	247	49	66	14546	18208
1-19	2456	188	127	132	2046	85	266		16394	21397
20-49	1830	85	52	33	1367	530	33	98	6247	9893
50-199	1240		33		668	316	132	163	3347	5544
200-499	306	66		33	118		66		580	1135
500 +	33				99				198	330
Total	7680	701	377	231	5697	1178	546	327	41313	56508

Item codes 620, 621, 622, 623, 624, 625, 626, 627, 628

Table E-6--Livestock raising information received by sheep operators

Table E-6--Renseignements sur l'élevage reçus par les exploitants d'ovins

Number of sheep in operation / *Nombre d'ovins dans l'exploitation*	Information / *Renseignements*									All / *Tout*
	Herdbook / *Herdbook*	Marketing / *Commercialisation*	Reproduction / *Reproduction*	Feeding and nutrition / *Alimentation*	Forage production / *Production fourragère*	Veterinarian services / *Services sanitaires*	Construction / *Construction*	Feed storage / *Préservation de nourriture*	Other / *Autre*	
Head / *Pièces*	Number of operators / *Nombre d'exploitants*									
0		396	333	587	538	296	32	49	208	1666
1-19	151	66	416	624	115	198	66	33	159	1368
20-49	66	33	370	485	85	49	16	33		870
50-199	132	66	198	231	66	85		33		514
200-499	66	66	99	99	33	99		93	66	258
500 +			33	33		33				33
Total	415	627	1450	2060	837	759	113	241	433	4709

Item codes 630, 631, 632, 633, 634, 635, 636, 637, 638

Table E-7--Livestock raising information most desired by sheep operators

Table E-7--Renseignements sur l'élevage les plus désirés par les exploitants d'ovins

Number of sheep in operation / *Nombre d'ovins dans l'exploitation*	Information / *Renseignements*									All / *Tout*
	Herdbook / *Herdbook*	Marketing / *Commercialisation*	Reproduction / *Reproduction*	Feeding and nutrition / *Alimentation*	Forage production / *Production fourragère*	Veterinarian services / *Services sanitaires*	Construction / *Construction*	Feed storage / *Préservation de nourriture*	Other / *Autre*	
Head / *Pièces*	Number of operators / *Nombre d'exploitants*									
0		132	413	736	558	214	311	181	132	1496
1-19	66	33	258	230	214	16	181		16	867
20-49	66	33	318	379	49	33	99			812
50-199	66	33	276	297	210	163	132		33	757
200-499	66		126			66				192
500 +		33	66	33		33				66
Total	264	264	1458	1675	1031	525	723	181	181	4190

Item codes 640, 641, 642, 643, 644, 645, 646, 647, 648

Table E-8--Farmer assistance projects which contacted sheep operators

Table E-8--Projets d'assistance agricole qui ont contacté les exploitants d'ovins

Number of sheep in operation / *Nombre d'ovins dans l'exploitation*	Project: Livestock / *Elevage*	Artificial insemination / *Insémination artificielle*	Record keeping / *Contrôle de performance*	Other / *Autre*	All / *Tout*
Head / *Pièces*	Number of operators / *Nombre d'exploitants*				
0	198	132		184	607
1-19	137	33	16	132	181
20-49	144	52	52	151	236
50-199	99	243	118	225	501
200-499	33		66	33	132
500 +					66
Total	611	460	252	725	1723

Item codes 650, 651, 652, 653

Table E-9--Evaluation of livestock and artificial insemination projects by sheep operators

Table E-9--Evaluation du projet d'augmentation de la production animale et projet d'insémination artificielle par les exploitants d'ovins

Number of sheep in operation / *Nombre d'ovins dans l'exploitation*	Livestock project / *Projet élevage* — Evaluation / *Evaluation* — Very helpful / *A rendu grand service*	Helpful / *A rendu service*	Not helpful / *N'a pas rendu service*	All / *Tout*	Artificial insemination / *Projet d'insémination artificielle* — Evaluation / *Evaluation* — Very helpful / *A rendu grand service*	Helpful / *A rendu service*	Not helpful / *N'a pas rendu service*	All / *Tout*
Head / *Pièces*	Number of operators / *Nombre d'exploitants*							
0								
1-19		132	33	165				
20-49	52	52		104				
50-199	111		66	177	99			99
200-499		66	33	99		52		52
500 +		33		33	66	66	78	210
Total	163	283	132	578	165	118	78	361

Item codes 654, 655

Table E-10--Evaluation of record keeping and miscellaneous government projects by sheep operators

Table E-10--Evaluation du projet de contrôle de performance et des projets variés par les exploitants d'ovins

Number of sheep in operation / *Nombre d'ovins dans l'exploitation*	Record keeping / *Projet de contrôle de performance* — Evaluation / *Evaluation*: Very helpful / *A rendu grand service*	Helpful / *A rendu service*	Not helpful / *N'a pas rendu service*	All / *Tout*	Miscellaneous government projects / *Projets gouvernementaux varies* — Evaluation / *Evaluation*: Very helpful / *A rendu grand service*	Helpful / *A rendu service*	Not helpful / *N'a pas rendu service*	All / *Tout*
Head / *Pièces*	Number of operators / *Nombre d'exploitants*							
0								
1-19								
20-49					66	33	33	132
50-199		52		52			198	198
200-499	78	66		144	33	85	33	151
500 +		66		66	126	33	66	225
Total	78	184		262	225	151	330	706

Item codes 656, 657

Table E-11--Household members, family and hired workers reported by sheep operators

Table E-11--Membres de ménage, famille, et ouvriers rapportés par les exploitants d'ovins

Number of sheep in operation / *Nombre d'ovins dans l'exploitation*	Household members / *Membres de ménage*	Family workers 1/ / *Membres de famille au travail 1/*	Hired workers / *Ouvriers*: Full time all work / *A plein temps pour tous travaux*: Men / *Hommes*	Full time all work: Women / *Femmes*	Full time livestock / *A plein temps pour l'élevage*: Men / *Hommes*	Full time livestock: Women / *Femmes*	Temporary / *Temporaire*: Men / *Hommes*	Temporary: Women / *Femmes*	Total farms / *Total de fermes*
Head / *Pièces*	Number of persons / *Nombre de personnes*								
0	283075	61860	8464	3277	1163		32648	4942	43693
1-19	186651	41492	4813	418	1160	68	7773	1164	25584
20-49	93409	22263	5405	132	1666	66	4923	1452	11488
50-199	66395	15311	6699	552	2787	66	4931	2437	6632
200-499	12068	2258	2641	132	962	198	2212	1848	1234
500 +	3531	528	2046	1188	363	33	198	1980	330
Total	645128	143712	30068	5699	8100	431	52685	13823	88962

Item codes 931, 932, 935, 936, 937, 938, 939, 941, 400

1/ Household members including operator working more than two hours per day on farm.

1/ Membres de ménage y compris l'exploitant qui travaillent plus deux heures par jour sur l'exploitation.

Table E-12--Labor information reported by sheep operators

Table E-12--Renseignements sur la main d'oeuvre rapportes par les exploitants d'ovins

Number of sheep in operation / *Nombre d'ovins dans l'exploitation*	Operators who worked off farm / *Exploitant qui travaillaient hors de leurs fermes*	Operators who reported: / *Exploitants qui ont rapporte:* Full time hired workers in April / *Ouvriers à plein temps en avril*	Full time hired livestock workers in April / *Ouvriers à plein temps qui s'occupaient de l'élevage en avril*	Temporary hired workers in April / *Ouvriers temporaires en avril*	Hired workers or intended use of hired workers in 1974 / *Ouvriers ou l'intention d'employer des ouvriers en 1974*	Total farms / *Total de fermes*	All workers in April / *Tous ouvriers en avril* Full time / *A plein temps*	Full time livestock / *A plein temps sur l'élevage*	Temporary / *Temporaire*
Head / *Pièces*	Number of operators / *Nombre d'exploitants*						Number of persons / *Nombre de personnes*		
0	12819	2667	1031	4658	6625	43693	11741	1163	37590
1-19	5954	1848	1059	2005	3598	25584	5231	1227	8937
20-49	1658	1701	1317	1134	2299	11488	5537	1732	6375
50-199	850	2081	1774	1039	2493	6632	7251	2853	7368
200-499	99	514	514	316	514	1234	2773	1160	4060
500 +		165	132	66	165	330	3234	396	2178
Total	21380	8977	5826	9219	15694	88962	35767	8531	66507

Item codes 944, 946, 947, 948, 945, 400, 951, 952, 953

Table E-13--Credit use by sheep operators and sources of credit

Table E-13--Emploi du crédit par exploitants d'ovins et sources de crédit

Number of sheep in operation / *Nombre d'ovins dans l'exploitation*	Credit users / *Exploitants qui se servent de crédit*	Source of credit / *Source de credit*: Bank / *Banque*	Local cashier's office / *Caisse locale*	Auto financing / *Auto financement*	Neighbor / *Voisin*	Livestock and pasturage project / *Office de l'élevage et des pâturages*	Other loan services / *Autres services de prêt*	Other / *Autre*	Total / *Total*
Head / *Pièces*	Number of operators / *Nombre d'exploitants*								
0	1417	646	118	132	33	49	373	33	43693
1-19	945	494	66	33	33		219	33	25584
20-49	590	392	66	33	33		33	33	11488
50-199	1246	592	291	297		33	33		6632
200-499	415	283		66			33	118	1234
500 +	33	33							330
Total	4646	2441	541	561	99	82	691	217	88962

Item codes 683, 684, 685, 686, 687, 688, 689

Table E-14--Mechanization, use of credit and ability to obtain seed reported by sheep operators

Table E-14--Mécanisation, emploi du crédit, et approvisionnements en semences rapportes par les exploitants d'ovins

Number of sheep in operation / *Nombre d'ovins dans l'exploitation*	Operators who reported: / *Exploitants qui ont rapporte:* Machines used as principle source of traction / *Source principale de traction est mécanique*	Credit used in farming operation / *Crédit utilisé dans l'exploitation agricole*	Unable to obtain enough seed / *Incapable d'obtenir assez de semences*	Total sheep farms / *Total d'exploitations ovines*
Head / *Pièces*	Number of operators / *Nombre d'exploitants*			
0	20933	1675	16289	
1-19	11042	978	11727	25584
20-49	6487	557	5657	11488
50-199	4616	1048	3040	6368
200-499	1117	297	721	1234
500 +	297	33	66	330
Total	44491	4588	37500	45005

Item codes 425, 697, 698, 699

Table E-15--Sheep by classes and ditch sheep reported by sheep operators

Table E-15--Ovins par classe et ovins des fosses rapportes par les exploitants d'ovins

Number of sheep in operation / *Nombre d'ovins dans l'exploitation*	Classes / *Classe*: Ewes / *Brebis*	Ram lambs < 1 yr. / *Agneaux < 1 an*	Ewe lambs < 1 yr. / *Agnelles < 1 an*	Rams and other sheep / *Beliers et autres ovins*	Total sheep / *Total d'ovins*	Ditch sheep 1/ / *Ovins des fosses 1/*
Head / *Pieces*	Number of head / *Nombre de pièces*					
0						
1-19	149716	51849	29189	15987	246739	77682
20-49	215598	67686	58279	19738	361301	127414
50-199	352408	97805	100302	23177	573693	113452
200-499	228605	62989	53874	15616	361084	36426
500 +	162558	42966	49533	10065	265122	15279
Total	1108885	323294	291177	84584	1807940	370253

Item codes 475, 476, 477, 478, 470, 479

1/ Sheep that grazed the roadside as the main source of pasture. Included in class information.

1/ Ovins qui paissaient au bord des routes comme source principale de paturage. Compris dans les renseignements selon la classe.

Table E-16--Specified livestock and crop items reported by sheep operators

Table E-16--Rubriques spécifiées de cheptel et de cultures rapportées par les exploitants d'ovins

Number of sheep in operation / *Nombre d'ovins dans l'exploitation*	Crops / *Cultures*		All land in farm / *Toutes terres exploitées*	Cattle / *Bovins*				Sheep / *Ovins*		
	Cereals / *Céréales*	Forages / *Fourrages*		All / *Tout*	Cows / *Vaches*	Ditch cattle 1/ / *Bovins des fossés 1/*	All / *Tout*	Ewes / *Brebis*	Ditch sheep 1/ / *Ovins des fossés 1/*
Head / *Pièces*	Number of hectares / *Nombre d'hectares*					Number of head / *Nombre de pièces*			
0	125904	22517	323284	94219	43716	31788			
1-19	112068	24599	281671	82825	40597	28128	246739	149716	77682
20-49	101751	14104	207687	73633	36192	26880	361301	215598	127414
50-199	170463	15630	332759	78860	38339	12593	573693	352408	113452
200-499	108983	20818	212675	40666	21962	11280	361084	228605	36426
500 +	15328	5937	76359	10758	5049	1122	265122	162558	15279
Total	634497	103605	1434433	380962	185856	111791	1807940	1108885	370253

Item codes 414, 417, 401, 450, 451, 457, 470, 471, 479

1/ Livestock that grazed the roadside as the main source of pasture. Included in class information.

1/ Bétail qui paissait sur le bord des routes comme principale de paturage. Compris dans les renseignements selon la classe.

Table E-17--Land by tenure and in selected crops reported by sheep operators

Table E-17--Terres par faire-valoir et plantées en certaines cultures choisies rapportées par les exploitants d'ovins

Number of sheep in operation	Land tenure					Total land in:			
	Faire valoir des terres					*Total des terres en:*			
	Owned	Rented	Managed	Held in associ-ation	Other	Sheep farms	Cereals	Gorth	Other forages
Nombre d'ovins dans l'exploitation	*En propriété*	*En location*	*En gérance*	*En associ-ation*	*Autre*	*Exploi-tations ovines*	*Céréales*	*Gorth*	*Autres fourrages*
Head *Pièces*	Number of hectares *Nombre d'hectares*								
0	268998	15363	2966	24941	5517	323288	125906	14713	7804
1-19	222049	19929	1083	18536	16164	281667	112066	8845	15753
20-49	160247	22262	148	23103	11[illegible]	207687	101751	6121	7983
50-199	172218	82193	2079	67399	83[illegible]	332760	170463	10046	5584
200-499	112231	19008	5983	69985	4[illegible]	212675	108983	15686	5132
500 +	75682	584			[illegible]	76359	15328	5148	789
Total	1011426	159339	12260	203964	36188	1434433	634498	60560	43046

Item codes 402, 403, 404, 405, 406, 401, 414, 415, 416

SECTION F
SECTION F

Table F-1--Age of all farm operators

Age de tous exploitants agricoles

Table F-2--Education of farm operators

Education des exploitants agricoles

Table F-3--Household members, family and hired workers reported by all farm operators

Membres de ménage, famille, et ouvriers rapportés par les exploitants agricoles

Table F-4--' 'or information reported by all farm operators

Renseignements sur le labeur rapportés par tous exploitants agricoles

Table F-5--Miscellaneous livestock facilities, mechanization, use of credit, and ability to obtain seed reported by all farm operators

Installations diverses pour l'elevage, mecanisation, emploi du credit, et approvisionnements en semences rapportees par tous exploitants agricoles

Table F-6--Cattle by classes, ditch cattle and deaths reported by all farm operators

Bovins par classe, bovins des fossés et morts rapportés par tous exploitants agricoles

Table F-7--Sheep by classes, ditch sheep, and sheep sacrificed reported by all farm operators

Ovins par classe, ovins des fossés, et ovins sacrifiés rapportés par tous exploitants agricoles

Table F-8--Specified livestock and crop items reported by all farm operators

Rubriques spécifiées de cheptel et de cultures rapportées par tous exploitants agricoles

Table F-9--Land by tenure and in selected crops reported by all farm operators

Terres par faire-valoir et plantées en certaines cultures choisies Rapportees par tous exploitants agricoles

Table F-1--Age of all farm operators

Table F-1--Age de tous exploitants agricoles

Number of hectares in operation / *Nombre d'hectares dans l'exploitation*	Years / *Ans*: Less than 31 / *Moins de 31*	31 to 40 / *31 à 40*	41 to 50 / *41 à 50*	51 to 60 / *51 à 60*	More than 60 / *Plus de 60*	Total / *Total*
	Number of operators / *Nombre d'exploitants*					
0-1	1165	3033	3762	3630	2200	13790
1.1-4.9	2091	6891	8694	6956	5362	29994
5.0-19.9	2574	7021	8196	6918	6180	30889
20.0-49.9	981	2174	2692	2289	1728	9867
50.0-99.9	143	748	376	734	654	2655
100.0-199.9	145	33	297	236	33	744
200.0-499.9	33	224	165	218	66	706
500.0 +	33	33	33	132	85	316
Total	7166	20158	24216	21114	16308	88962

Item code 691, 400

Table F-2--Education of farm operators

Table F-2--Education des exploitants agricoles

Number of hectares in operation / *Nombre d'hectares dans l'exploitation*	Years of school / *Années passées à l'école*						Total / *Total*
	None / *Nulle*	Less than five years / *Moins de cinq années*	5 to 8 years / *5 à 8 années*	9 to 10 years / *9 à 10 années*	11 to 13 years / *11 à 13 années*	More than 13 years / *Plus de 13 années*	
	Number of operators / *Nombre d'exploitants*						
0-1	11103	1260	1087	121	219		13790
1.1-4.9	23183	4370	1125	867	197	252	29994
5.0-19.9	22007	5360	2215	1000	189	118	30889
20.0-49.9	5765	2365	925	344	193	275	9867
50.0-99.9	1228	668	356	151	93	159	2655
100.0-199.9	198	200	210		84	52	744
200.0-499.9	231	292	85	65	33		706
500.0 +	66	67	85	65	33		316
Total	63781	14583	6088	2613	1041	856	88962

Item codes 692, 400

Table F-3--Household members, family and hired workers reported by all farm operators

Table F-3--Membres de menage, famille et ouvriers rapportes par les exploitants agricoles

Number of hectares in operation / *Nombre d'hectares dans l'exploitation*	Household members / *Membres de menage*	Family workers 1/ / *Membres de famille au travail 1/*	Hired workers / *Ouvriers*						Total farms / *Total de fermes*
			Full time all work / *A plein temps pour tous travaux*		Full time livestock / *A plein temps pour l'Élevage*		Temporary / *Temporaire*		
			Men / *Hommes*	Women / *Femmes*	Men / *Hommes*	Women / *Femmes*	Men / *Hommes*	Women / *Femmes*	
	Number of persons / *Nombre de personnes*								
0-1	86603	16370	198		198		380		13790
1.1-4.9	199877	43962	1963	229	441		19255	160	29994
5.0-19.9	226525	53472	6051	849	2018	33	13465	2077	30889
20.0-49.9	86838	20628	5651	2348	1717	82	9501	5645	9867
50.0-99.9	26366	5313	5298	429	1563		2223	132	2655
100.0-199.9	7157	1261	2265	293	744	118	2645	330	744
200.0-499.9	8848	2141	3987	165	885	198	1089	2508	706
500.0 +	2916	566	4654	1386	533		4126	2970	316
Total	645129	143712	30068	5699	8100	431	52684	13823	88962

Item codes 931, 932, 935, 936, 937, 938, 939, 941, 400

1/ Household members including operator working more than two hours per day on farm.

1/ Membres de ménage y compris l'exploitant qui travaillent plus deux heures par jour sur l'exploitation.

Table F-4--Labor information reported by all farm operators

Table F-4--Renseignements sur le labeur rapportés par tous exploitants agricoles

Number of hectares in operation / *Nombre d'hectares dans l'exploitation*	Operators who worked off farm / *Exploitants qui travaillaient hors de leur ferme*	Operators who reported: / *Exploitants qui ont rapporté:* Full time hired workers in April / *Ouvriers à plein temps en avril*	Full time hired livestock workers in April / *Ouvriers à plein temps qui s'occupaient de l'élevage en avril*	Temporary hired workers in April / *Ouvriers temporaires en avril*	Hired workers or intended use of hired workers in 1974 / *Ouvriers ou l'intention d'employer des ouvriers en 1974*	Total farms / *Total de fermes*	All workers in April: / *Tous ouvriers en avril:* Full time / *A Plein temps*	Full time livestock / *A Plein temps sur l'élevage*	Temporary / *Temporaire*
	Number of operators / *Nombre d'exploitants*						Number of persons / *Nombre de personnes*		
0-1	6333	33	33	380	446	13790	198	198	380
1.1-4.9	8453	974	309	2245	3317	29994	2192	441	19415
5.0-19.9	4607	3226	1950	3120	6104	30889	6899	2051	15543
20.0-49.9	1424	2164	1481	2301	3196	9867	8000	1799	15147
50.0-99.9	464	1327	950	574	1327	2655	5727	1563	2355
100.0-199.9	33	447	395	184	447	744	2558	862	2975
200.0-499.9	66	489	456	198	541	706	4152	1083	3597
500.0 +		316	250	217	316	316	6040	533	7096
Total	21380	8977	5826	9219	15694	88962	35767	8531	66507

Item codes 944, 946, 947, 948, 945, 400, 951, 952, 953

Table F-5--Mechanization, use of credit and ability to obtain seed reported by all farm operators

Table F-5--Mecanisation, emploi du crédit, et approvisionnements en semences, rapportes par tous les exploitants agricoles

Number of hectares in operation / *Nombre d'hectares dans l'exploitation*	Operators who reported: / *Exploitants qui ont rapporté:* Machines used as principle source of traction / *Source principale de traction est mécanique*	Credit used in farming operation / *Crédit utilise dans l'exploitation agricole*	Unable to obtain enough seed / *Incapable d'obtenir assez de semences*	Total cattle and sheep farms / *Total d'exploitations bovins et ovines*
	Number of operators / *Nombre d'exploitants*			
0-1	6532	343	4664	6662
1.1-4.9	13373	559	12200	19022
5.0-19.9	15132	1946	13057	25718
20.0-49.9	5874	692	4967	8275
50.0-99.9	2198	415	1379	2490
100.0-199.9	519	137	494	692
200.0-499.9	547	363	522	706
500.0 +	316	132	217	316
Total	44491	4588	37500	63882

Item codes 427, 697, 698, 699

Table F-6--Cattle by classes, ditch cattle and deaths reported by all farm operators

Table F-6--Bovins par classe, bovins des fossés et morts rapportés par tous exploitants agricoles

Number of hectares in operation / *Nombre d'hectares dans l'exploitation*	Class / *Classe*: Cows / *Vaches*	Calves < 1 year / *Veaux < 1 an*	Heifers 1-2 yrs. / *Génisses 1-2 ans*	Bulls and steers 1-2 yrs. / *Taureaux et boeufs 1-2 ans*	Breeding bulls / *Taureaux destinés à la reproduction*	Other cattle / *Autres bovins*	Total cattle / *Total de bovins*	Ditch cattle 1/ / *Bovins des fossés 1/*	Cattle deaths / *Bovins morts*
	Number of head / *Nombre de pièces*								
0-1	11920	7558	1692	623	495	461	22748	9264	627
1.1-4.9	28637	18503	3056	2773	841	3850	57660	24220	1797
5.0-19.9	64052	35873	7860	4036	3242	10175	125238	39142	11767
20.0-49.9	26630	16923	4854	4851	3082	4399	60739	16639	4608
50.0-99.9	17874	9895	5317	3189	904	1419	38599	5233	1116
100.0-199.9	6119	4013	844	1236	401	417	13031	3752	660
200.0-499.9	14974	10349	3409	2937	646	511	32826	6347	844
500.0 +	15650	10090	1846	2013	453	66	30120	7194	264
Total	185856	113204	28880	21658	10065	21298	380962	111791	21683

Item codes 451, 452, 453, 454, 455, 456, 450, 457, 461

1/ Cattle that grazed the roadside as the main source of pasture. Included in class information.

1/ Bovins qui paissaient au bord des routes comme source principale de paturage. Compris dans les renseignements selon la classe.

Table F-7--Sheep by classes and ditch sheep reported by all farm operators

Table F-7--Ovins par classe et ovins des fossés rapportés par tous exploitants agricoles

Number of hectares in operation / *Nombre d'hectares dans l'exploitation*	Classes / *Classe*: Ewes / *Brebis*	Ram lambs < 1 yr. / *Agneaux < 1 an*	Ewe lambs < 1 yr. / *Agnelles < 1 an*	Rams and other sheep / *Béliers et autres ovins*	Total sheep / *Total d'ovins*	Ditch sheep 1/ / *Ovins des fossés 1/*
	Number of head / *Nombre de pièces*					
0-1	172582	61614	44234	9310	287739	25107
1.1-4.9	121984	37957	24609	8222	192771	64801
5.0-19.9	327677	88953	87889	28639	533158	114604
20.0-49.9	202654	62364	53276	16670	334964	58891
50.0-99.9	115057	30121	29056	5961	180195	25100
100.0-199.9	46965	10143	10956	4817	72882	2748
200.0-499.9	66602	21268	23319	9531	120721	52140
500.0 +	55363	10873	17838	1434	85510	26862
Total	1108885	323294	291177	84584	1807939	370253

Item codes 475, 476, 477, 478, 470, 479

1/ Sheep that grazed the roadside as the main source of pasture. Included in class information.

1/ Ovins qui passaient au bord des routes comme source principale de paturage. Compris dans les renseignements selon la classe.

Table F-8--Specified livestock and crop items reported by all farm operators

Table F-8--Rubriques spécifiées de cheptel et de cultures rapportées par tous exploitants agricoles

Number of hectares in operation / *Nombre d'hectares dans l'exploitation*	Crops / *Cultures*: Cereals / *Céréales*	Crops / *Cultures*: Forages / *Fourrages*	All land in farm / *Toutes terres exploitées*	Cattle / *Bovins*: All / *Tout*	Cattle / *Bovins*: Cows / *Vaches*	Cattle / *Bovins*: Ditch cattle 1/ / *Bovins des fossés 1/*	Sheep / *Ovins*: All / *Tout*	Sheep / *Ovins*: Ewes / *Brebis*	Sheep / *Ovins*: Ditch sheep 1/ / *Ovins des fossés 1/*
	Number of hectares / *Nombre d'hectares*					Number of head / *Nombre de pièces*			
0-1	2182	187	7505	22748	11920	9264	287739	172582	25107
1.1-4.9	38677	1935	78320	57660	28637	24220	192771	121984	64801
5.0-19.9	156947	18398	307983	125238	64052	39142	533158	327677	114604
20.0-49.9	131239	15452	292579	60739	26630	16639	334964	202654	58891
50.0-99.9	81754	22863	186675	38599	17874	5233	180195	115057	25100
100.0-199.9	29720	6476	100867	13031	6119	3752	72882	46965	2748
200.0-499.9	103453	10743	206044	32826	14974	6347	120721	66602	52140
500.0 +	90529	27551	254476	30120	15650	7194	85510	55363	26862
Total	634500	103605	1434449	380962	185856	111791	1807939	1108885	370253

Item codes 414, 417, 401, 450, 451, 457, 470, 471, 479

1/ Livestock that grazed the roadside as the main source of pasture. Included in class information.

1/ Bétail qui paissait au bord des routes comme source principale de paturage. Compris dans les renseignements selon la classe.

Table F-9--Land by tenure and in selected crops reported by all farm operators

Table F-9--Terres par faire-valoir et plantées en certaines cultures choisies rapportees par tous les exploitants agricoles

Number of hectares in operation / *Nombre d'hectares dans l'exploitation*	Land tenure / *Faire valoir des terres*: Owned / *En propriété*	Rented / *En location*	Managed / *En gérance*	Held in association / *En association*	Other / *Autre*	Total land in: / *Total des terres en:*: All farms / *Exploitations bovines*	Cereals / *Céréales*	Gorth / *Gorth*	Other forages / *Autres fourrages*
	Number of hectares / *Nombre d'hectares*								
0-1	6934	208		156	724	7505	2182	123	64
1.1-4.9	68378	3764	99	3166	1218	78319	38677	811	1123
5.0-19.9	250299	25377	1227	24508	2223	307985	156948	10336	8062
20.0-49.9	206157	38290	907	40711	4288	292579	131238	9688	5764
50.0-99.9	147761	6514	4042	22856	3040	186675	81754	8268	14595
100.0-199.9	58906	2677		20253	18580	100867	29720	6255	221
200.0-499.9	124561	38547	5983	30639	6110	206044	103453	6338	4405
500.0 +	148441	43963		61675	5	254476	90529	18740	8811
Total	1011436	159339	12260	203964	36188	1434449	634501	60560	43046

Item codes 402, 403, 404, 405, 406, 401, 414, 415, 416