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**The National Sheep and Goat Improvement
Program for Portugal**

**A Report Prepared for
PROCALFER, Ministry of Agriculture,
Commerce and Fisheries,
Portugal**

**Prepared and submitted by
The Sheep and Goat Consultancy
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EXECUTIVE SUMMARY

This report is for the consulting period of March 17 to April 8, 1983 for Dr. Carl L. Hausler. The purpose of the consultation was to continue the work of the PROCALFER small ruminant consulting team, supporting the Portugal Ministry of Agriculture, Commerce and Fisheries in their National Sheep and Goat Improvement Program. The work was carried out under the direction of Dr. Carlos Fontes, General Director, DGP and Dr. Glen Purnell, OICD/USDA (PROCALFER). Dr. Hausler worked directly with Dr. Luis Telo da Gama in the conduct of the program.

The objectives of the consulting visit and the work done to accomplish them are as follows:

1. Visit each of the seven selected locations during the breeding season to assure that necessary data will be collected and that appropriate procedures are followed. Each station was visited and their progress in meeting the objectives of the program was evaluated. For one station, (Alter do Chão) the visit was accomplished by meeting with the person in charge of the program in Lisbon. Due to the planned differences in the date of initiation of the breeding season, data collection has begun at some stations, and will begin within one month at the others. Assistance in collecting data was provided at some of the stations. In addition, an eighth station was visited (Paul da Serra) in the Algarve region. During the visit to this station it was determined that this station would join the others, beginning immediately, in following the program of data collection. All the resources for them to begin are available, except for a sheep handling area. Plans for the sheep working area have been developed and funded through the Regional Direction.
2. Coordinate the management work with the Universities at Evora and Tras-os-Montes and Alto Douro as well as the National Zootechnic Station. I visited the University at Vila Real on March 31. Discussions were held with Eng. Jorge Manuel Teixeira de Azevedo, who is responsible for the sheep and goats at that Institute. Possible areas of cooperation were discussed, particularly of interest would be their capabilities to do carcass evaluation work. This could be of value to nearby stations (Tondela and Macedo de Cavaleiros) which apparently have no means of evaluating carcasses. I also met with Dr. Fernando Real, Rector of the Institute, who indicated a desire to cooperate as well. Dr. Purnell and I visited the National Zootechnic Institute at Fonte Boa on April 1, and discussed our work with Dr. Pires da Costa, Sub-Director of the Station. Possibly some carcass evaluation work for our program can be carried out at this station. On April 7, Dr. Gama and I visited the University of Evora and met with their Department of Zootechnia staff. They

have prepared a proposal suggesting that they cooperate with the National Sheep and Goat Improvement Program by collecting similar production data on Merina Branca sheep in the Alentejo region.

3. Review final texts and format of two extension bulletins under production on "Foot Care" and "Culling and Selection of Breeding Animals". I found these to be in rough-draft form yet and recommend that they continue to develop these and collect appropriate photographs to complete these. Possibly these will be further developed into video-tape format (see 5 below).

4. Conduct a seminar for the leaders of the seven work sites. A seminar entitled "Improving Reproductive Efficiency of Sheep" was presented on April 5, 1983 during the regular monthly meeting of the project team. The seminar was presented in four hours and drew considerable response in the form of questions and discussions of the research presented. Only recent (1980 to present) research results were discussed, in the interest of keeping the discussions based on current concepts of reproductive management. In addition to the leaders of the seven stations, attendance at the seminar included other interested persons from within the MACP. The seminar and all visual materials were presented in the Portuguese language. All presented materials, including copies of the original research articles discussed were left with Dr. Luis Gama for distribution to interested parties.

5. Work with the video tape and information specialists to produce appropriate publicity, particularly related to PROCALFER. Dr. Gama and I met with Kathy Alison, PROCALFER consultant on video-tape use and production. Methods of production of tapes and the video-tape needs of the small ruminant program were discussed. A video-tape on lambing management produced by the International Sheep and Goat Institute of Utah State University by Drs. Hausler, Foote and others was presented at the April 5 meeting of the project team. Ms. Alison and her counterparts were in attendance for this showing. After the tape was presented, a discussion followed involving the video team and the small ruminant team which should be considered the initiation of contacts for the production of video-tapes appropriate to the specific needs of the small ruminant program of MACP and PROCALFER.

6. In addition to the assigned objectives (1-5), I worked with Dr. Gama and the rest of the project team in developing topics to be discussed during the short courses to be offered to the project personnel at Utah State University in June and August, 1983.

Recommendations

1. Include Estacao Paul da Serra of the Algarve region in the project. They will begin data collection immediately on their flock of Campanico sheep. Dr. Mario Costa was briefed on the program as Dr. Gama and I visited the station. The data collect-

ed here will complement the data being collected on the Campanica breed by Dr. Bettencourt at Vale Formoso.

2. Dr. Mario Costa should be included in the list of personnel selected to attend the short courses in the United States from June to August, 1983.
3. Continue efforts to complete the sheep handling areas at each station with the support of the DGP.
4. The DGP should continue to closely monitor the data collection during this initial breeding season, with the purpose of assisting in resolving problems as they arise.
5. Slight modification in the dates of the secondary breeding seasons at certain stations should be discussed further during the short courses at Utah State University in August, 1983.
6. DGP should take the initiative in the production of videotape programs for use in sheep extension work.
7. The DGP should be provided with the required equipment to tape footage dealing with the Basic Management and Breed Evaluation Program, and TV monitors for presentation of extension related materials.
8. Include the suggested specific topics in the short courses at Utah State University.
9. A consulting team should return to Portugal in October, 1983. This team would consist of Dr. Warren C. Foote and Dr. Jay W. Call.
10. Basic management practices as described in the August 31, 1982 report should be fully adopted and maintained, with modifications as experience indicates.
11. Enrollment of University of Evora sheep specialists in the short courses at Utah State University should be accomplished.

Title: The National Sheep and Goat Improvement Program for Portugal.

Consultant: Dr. Carl L. Hausler, Ph.D. Visiting Associate Professor, International Sheep and Goat Institute, Utah State University. Expert in Reproduction and Management.

Consulting Period in Portugal: March 17-April 8, 1983

Strategy for achieving the objectives of the National Sheep and Goat Improvement Program.

During earlier visits to Portugal, the small ruminant consulting team recommended an integrated program to identify and mobilize available resources, collect pertinent information and establish necessary management practices to conduct a National Sheep and Goat Improvement Program. This is being achieved through the efforts of the Portuguese personnel of the "Direcção Geral de Pecuária" (DGP) and several regional directions in collaboration with visits of appropriate members of the Sheep and Goat Consultancy team. Approximately two visits per year are planned, relating to the primary (spring) and secondary (fall) sheep breeding and lambing periods.

Specific objectives are identified for each consultant visit, and for the period of time between visits. The reports prepared by the visiting consultants will include an evaluation of the ongoing work in Portugal, as a means to strengthen the program and correct deficiencies. The long term program can thus be conducted on a continuous basis, with the specific aspects of the short term programs being evaluated by the consultants and the DGP personnel.

Objectives of This Consulting Visit: (See Attachment 7)

1. Visit each of the seven selected locations during the breeding season to assure that necessary data will be collected and that appropriate procedures are followed. During these visits, on-the-job training will be stressed for local personnel.
2. Coordinate the program with the work being accomplished by the Universities at Evora and Tras-as-Montes e Alto /Douro as well as the National Zootechnical Station.
3. Review final texts and format of the two extension bulletins being prepared on "Foot Care" and "Culling and Selection of Breeding Animals".

4. Conduct a seminar for the leaders of the seven sites.
5. Work with the video-tape and information specialists to produce appropriate publicity particularly related to PROCALFER.

Relation to Last Visit:

The visit was designed to evaluate the progress of the Basic Management and Breed Evaluation Program as the initial breeding season for data collection begins. All work was carried out in cooperation with the DGP and the Regional Directions of Agriculture.

Work Accomplished Since the Last Consultancy Visit:

The following time schedule was recommended to the DGP in the consultants report of November-December, 1982:

1. January 15, 1983
 - All plans completed for facilities and other resource development.
 - All required resources (personnel, funds, or facilities, etc., arranged for by DGP, Regional Directions, PROCALFER).
2. February 15, 1983
 - All animals on station.
 - Annual calendar of activities completed.
3. March 1, 1983
 - DGP review final program and calendar of activities with station personnel.
4. March 15, 1983
 - All facilities and related construction completed.
 - All resources in place and functional.

Regarding the above schedule, there have been some delays in the actual construction of the facilities, however these delays have been unavoidable due to the time necessary for administrative approval, budgeting, funding, purchase and delivery of the materials.

All animals are currently on the stations for the Basic Management and Breed Evaluation program. The DGP and the regional station personnel have held regular monthly meetings to discuss calendar and program needs. These meetings, besides resolving programmatic problems as they arise, also serve as contacts

for the regional personnel with the national program. In spite of the lack of facilities at the initiation of the primary breeding season, 1983, the stations are prepared to handle the sheep on a makeshift basis to collect the required data.

Work Completed During This Visit

The accomplishments of this visit are summarized here in accordance with the five objectives of the visit.

1. Visit each of the seven selected locations during the breeding season to assure that necessary data will be collected and that appropriate procedures are followed. During these visits, on-the-job training will be stressed for local personnel.

The itinerary for each station visit is in Attachment 1, and a detailed report on each cooperating sheep station is in Attachment 2. These visits were made by the consultant with Dr. Luis Gama of the DGP. Dr. Teixeira de Sa also accompanied us to the Paul da Serra, Abobada and Vale Formoso station. Because of scheduling problems it was impossible to arrange a station visit at Alter do Chão, but Dr. Jose Marcelino Tavares of that station met with Dr. Gama and the consultant in Lisbon on April 5, 1983.

Without exception, each station was preparing to begin the Primary Breeding Season data collection. Indeed, at Alcacer do Sal, the ewes were being bred at the time of the visit, and data collection had begun in the previous weeks. Also, at the Abobada station, the consultant helped to collect and evaluate semen as others were ear-tagging, identifying and weighing the ewes.

No stations, at the time of the visit, had completed the sheep handling facility as recommended in the last report. However, these projects have been designed, budgeted, and the money is becoming available as rapidly as possible within the system. It is the understanding of the consultant that the sheep handling facility was constructed and is in use at Alcacer do Sal since the visit to that station (this is a privately owned flock, whereas the other stations are part of the regional directions). Although the lack of these handling facilities will not impede the collection of data, it will make the data collection more difficult, require more labor, and stress the animals to a larger extent. All possible efforts should be mobilized to get the money and these materials delivered so that construction can begin.

The forms required for the collection of data have been designed and were ready for printing. At the time of the consultants visit, however, these forms were not yet available to the stations.

Animals destined for the data collection had been identified and marked (ear tags, tatoos, etc.) at all stations. This is essential to the data collection process.

Most stations had a date set for shearing the ewes. This will occur before the primary breeding season begins. Arrangements were made at these stations to collect data on the individual wool characteristics and production.

There were recommendations to alter the dates of the secondary breeding season to increase the chances for ewes bred during this season to enter into the primary breeding season ewe group the following year. The justification for this is that the currently recommended dates would favor the passage of open primary breeding season ewes to the secondary breeding season, and make it difficult for these ewes to re-enter the primary breeding season.

2. Coordinate the management work with the universities at Evora and Tras-os-Montes e Alto Douro as well as the National Zootechnical Station.

At the University of Evora, Dr. Gama and the consultant visited their laboratories and sheep farm. After learning of their program, the group presented a draft proposal, suggesting that they collect similar data on the productivity of the Merino Branco breed at six (or possibly more) private flocks in the Alentejo region (see Attachment 3). It was suggested that they prepare this draft into a proposal, and submit it to the DGP. This type of study would be of tremendous support to the National Sheep and Goat Improvement Program, as well as foster a working relationship between this University and the DGP.

The consultant and Dr. Gama also visited the University of Tras-os-Montes e Alto Douro in Vila Real. Discussions with Eng. Jorge Azevedo, who is in charge of their sheep and goat program, suggest that a possible area of cooperation may be in utilizing their personnel and facilities to do the carcass evaluation work for at least two nearby stations (Macedo de Cavaleiros and Tondela).

Dr. Purnell of PROCALFER and the consultant had a brief visit with Dr. Pires de Costa, sub-director of the National Zootechnical Station. The possibilities of this research station assisting the National Sheep and Goat Improvement Program were discussed, particularly as it relates to carcass evaluation.

3. Review final texts and format of two extension bulletins under production on "Foot Care" and "Culling and Selection of Breeding Animals".

The consultant found that the outlines of these bulletins had been translated into Portuguese, but that final draft preparation and photography work were still not accomplished. Dr. Gama

has indicated that he feels the pamphlet or bulletin may not be the appropriate communication medium for this information, and indicated a desire for further discussion with the consulting team in June (during the short courses at Utah State University) to remove some of the doubts.

4. Conduct a seminar for the leaders of the seven work sites.

On April 5, the leaders of the seven work sites had a regular monthly meeting in Lisbon. Business related to the Basic Management and Breed Evaluation Program was discussed, as well as business related to the forthcoming trip of the leaders to the U.S. for various short courses. A video-tape demonstration and discussion was also on the agenda of this meeting (see Attachment 4). A detailed description of this part of the program is found under 5 below.

Dr. Hausler presented a 3-4 hour seminar on "Increasing Reproductive Efficiency in Sheep" which discussed the following topics:

- a. Physiology and Endocrinology of Estrus (a review).
- b. Research into the physiology and endocrinology of anestrus.
- c. Increasing prolificacy in sheep.
 - (1) more lambs/parturition
 - (2) more parturitions/ewe/year
- d. Management requirements of highly prolific ewes.

To assure that the discussions were current, only pertinent research published since 1980 was utilized. The seminar was presented in the Portuguese language with all video materials also prepared in Portuguese. All seminar materials, including copies of the original research discussed, were left for their use following the seminar. The seminar provoked much discussion and questioning, suggesting that it was a timely and interesting topic for the leaders of the seven stations and other DGP personnel who attended.

5. Work with the video-tape and information specialists to produce appropriate publicity particularly related to PROCALFER.

The consultant and Dr. Gama met with PROCALFER video-tape consultant Kathy Alison. During this meeting the methods of producing extension-related video-tapes were discussed as well as an indication of who within the Ministry will be in charge of production. The consultant brought a recently completed video-tape on "Lambing Management" prepared by the International Sheep and Goat Institute of Utah State University. This video was shown, followed by a discussion on the possibilities of utilizing

this communication means for extension within the National Sheep and Goat Program. The "Lambing Management" video-tape script was then translated into Portuguese and shown to the program leaders of the seven stations at their April 5 meeting. PROCALFER consultant Kathy Alison and her counterparts were present, and thus a direct dialogue between the people responsible for video production and the leaders of the National Sheep and Goat Program was accomplished. The discussion that followed the video presentation was productive, in that plans for an initial video tape production were made. Drs. Bettencourt (Abobada Station) and Carolino (Alcacer do Sal Station) volunteered to write a script and provide the technical expertise for a video-tape on "Installations for Sheep Producers".

6. Beyond the assigned objectives (1-5), the consultant also visited an eighth station, Paul da Serra, in the Algarve region. Discussions with Dr. Mario Costa, director of this station, indicated his desire, willingness and capabilities to join the Basic Management and Breed Evaluation Program. He has 300 ewes of the Campanica breed. Dr. Gama and the consultant both felt that the data generated here would complement the National Program very well and represent the Algarve region in the study. The station currently has some pasture stocking rate studies being initiated. They breed in April and May (for market reasons) and use no secondary breeding period. There is some hay production for use during dry periods. Semen testing is practiced. Lambing is done on pasture, only occasionally are ewes brought into a shed before lambing.

Another achievement of the consultant was to work with Dr. Gama and the leaders of the seven stations to determine the topics of interest to be covered during the various short courses at Utah State University in June and August, 1983. A list of these suggested topics may be found in Attachment 5.

The consultant also met with Dr. Francisco Tavares, who is in charge of the estrus and ovulation study at the Venda Nova Station. The animals for this study are still in quarantine. The study will begin as soon as the quarantine is over. During quarantine there were some problems with foot rot and mange. However, the consultant was told that if the animals pass a blood test for brucellosis in the near future, they will be released from quarantine. Dr. Tavares has become familiar with the laparoscope technique, and feels confident that he can make all necessary observations for this important research.

Program Recommendations

The following recommendations were finalized in consultation with other members of the Small Ruminant Consulting Team including Dr. Warren C. Foote (team leader), Dr. John Butcher, Dr. Jay W. Call, and Dr. Doyle J. Matthews.

1. Include "Estacao Paul da Serra" of the Algarve Region in the National Sheep and Goat Improvement Program.

Rationale: The sheep, feed and personnel to carry out the study are available. The inclusion of this station would provide data on the Campanica breed to complement that collected by Dr. Betencourt at Vale Formoso. The regional director is going to fund the construction of a sheep handling facility. Semen testing can be achieved with current facilities, as can the weighing of the ewes. All ewes are identified.

2. Dr. Mario Costa should be included in the list of personnel to attend the short courses in the United States from June to August, 1983.

Rationale: As person in charge of the Paul de Serra flock, he would benefit from these courses, and thus this would benefit the National Sheep and Goat Improvement Program.

3. Continue efforts to complete the sheep handling areas at each station, with the support of DGP.

Rationale: Progress is being made and efforts should continue to assure the timely completion of these facilities. Once completed, these facilities will be of great help in obtaining data on the Basic Management and Breed Evaluation Program being initiated.

4. The DGP should continue to closely monitor the data collection during this initial breeding season, with the purpose of resolving problems as they arise.

Rationale: The first year of data collection is when most problems will arise. DGP personnel can, by working closely with each station, help to resolve these problems in a way that will lead to a minimum loss of valuable production data.

5. Slight modifications in the dates of the secondary breeding season at certain stations should be discussed further during the short courses at Utah State University in August 1983.

Rationale: There is some concern that the dates of the breeding season, as originally planned, may lead to an accumulation of ewes in the secondary breeding season. Ewes bred in the secondary breeding season would be in mid-lactation when the primary breeding season occurs, making it difficult for many of these ewes to return to the primary group. However, a disadvantage of this change is that this moves the breeding season closer to the period of anestrus and may result in sub-optimum fertility. Further discussion may be useful to resolve this problem.

6. DGP should take the initiative in the production of video-tape programs for use in sheep extension work.

Rationale: The Basic Management Program contains many topics for sheep extension work. A team has been nominated to prepare a script on Sheep Installations (fences, footbaths, handling areas, etc.). More topics have been discussed and plans for their development should be forthcoming. It is felt that video-tapes would be an especially effective way of communicating with those involved in sheep production in Portugal. Extension of the generated information is an essential goal of the National Sheep and Goat Improvement Program.

7. The DGP should be provided with the required equipment to tape footage dealing with the Basic Management and Breed Evaluation Program, and TV monitors for presentation of extension related materials.

Rationale: The DGP would benefit from the acquisition of a video-camera instrument to tape sheep and goat related topics for extension use, and a TV monitor to display these tapes. Many sheep and goat management procedures are seasonal in nature. Project personnel are with the animals on a day to day basis, and therefore would be knowledgeable of the proper times for video-taping sessions. This would be extremely useful to document the Basic Management and Breed Evaluation Program. With TV monitors, these tapes could be displayed at field days, expositions, and community gatherings.

8. Include the suggested specific topics in the short courses at Utah State University.

Rationale: Those participating in the short courses in the United States in summer, 1983 have specific objectives for doing so. These objectives were put in the form of recommendations (Attachment 4) on the content of the short courses to be offered by The International Sheep and Goat Institute, Utah State University.

9. A consulting team should return to Portugal in October, 1983. This team would consist of Dr. Warren C. Foote and Dr. Jay W. Call.

Rationale: The first year of data collection is critical to the success of the program. The work to be accomplished during this visit would be: a) present two seminars on selected topics of small ruminant production and preventive veterinary medicine, (Foote and Call); b) review the Basic Management and Breed Evaluation Study at the stations, (Foote and Call); c) review the estrus and ovulation study at Venda Nova, (Foote); d) develop procedures for processing and analysis of data being collected, (Foote); e) assist in finalization of extension materials (video-tape, bulletins, etc.), (Foote and Call); f) assist in the development of a cooperative program linking the universities at Evora and Vila Real with the National Sheep and Goat Improvement Program, (Foote); g) review the small ruminant research program at the National Zootechnical Station and develop cooperative research efforts, (Foote); h) review and evaluate the progress

of the National Sheep and Goat Improvement Program with the DGP and PROCALFER, (Foote); i) evaluate progress in the animal health component of the Basic Management Program, (Call); j) cooperate with the DGP on their National Disease Control (as a follow-up of the short course to be given to the Portuguese team leaders in August, 1983), (Call).

10. Basic Management Practices as described in the August 31, 1982 report should be fully adopted and maintained, with modifications as experience indicates.

Rationale: The Basic Management Program standardizes the data collected for breed evaluation and also provides information and techniques suitable for extension purposes.

11. Enrollment of University of Evora sheep specialists in the short courses at Utah State University should be accomplished.

Rationale: Eng. Jose Avó and two of his colleagues indicated they would be at the American Society of Animal Science meetings in Pullman, Washington from July 26-29, 1983. They expressed a desire to visit Utah State University for two weeks immediately following the meetings. This coincides with the short courses being offered to DGP personnel. The staff at Evora indicated a desire to participate in these short courses, therefore this is being recommended.

ACKNOWLEDGEMENTS

I would like to express my gratitude to Dr. Luis Telo da Gama, with whom I had the pleasure of working on a daily basis. His capable leadership assures the success of the National Sheep and Goat Improvement Program. I also wish to thank Dr. Glen Purnell and Mr. James Black for their assistance in the completion of this phase of the work. Dr. Purnell and his wife were gracious hosts to my wife and I. We sincerely appreciate their hospitality. Dr. Warren C. Foote of the International Sheep and Goat Institute (ISGI), Utah State University is to be commended for his leadership of the National Sheep and Goat Improvement Program. His wisdom and advice has proven valuable to me as I undertook this endeavor. Thank you to Ms. Donna Murray of the ISGI for her willingness to spend many extra hours in the typing and preparation of this report.

Itinerary for Dr. Carl L. Hausler

March 17 - April 8, 1983

- Thursday, March 17 Travel from U.S. to Lisbon.
- Friday, March 18 Arrived in Lisbon.
- Sunday, March 20 7:30 p.m. Met in Hotel Rex with Dr. Luis Gama to discuss the consulting itinerary, schedule for the short courses and a call to Dr. Foote of Utah State University regarding the short courses.
- Monday, March 21 A.M. Worked on seminar notes.
- P.M. Meeting in PROCALFEI office with Dr. Glen Purnell, Mr. James Black and Dr. Luis Gama. Re: Agenda for consulting visit and a call to Utah State University.
- Tuesday, March 22 9:30 a.m. Left for Alcacer do Sal with Dr. Luis Gama. Visited cooperating private flock under the management of Dr. Renato Carolino.
- 2 p.m. Drove to Evora, attended the auction of test rams from the Alter do Chao station.
- 5 p.m. Visited Dr. John Sanders of the Purdue team at the University in Evora. Re: Plans for a visit to the University on April 7, 1983.
- 6 p.m. Drove with Dr. Luis Gama and Dr. Teixeira de Sá to the Algarve region. Stayed in Armacao do Pera.
- Wednesday, March 23 8:30 a.m. Drs. Gama, Sá and Hausler visited the Algarve regional direction office in Portimao, then the station "Paul da Serra". Re: Study the possibilities of including this station in the breed evaluation study.

4:30 p.m. Drs. Gama, Sá and Hausler, drove to station at Abobada. Saw 225 ewes on the station which will be used in the study, as well as the pastures.

8:30 p.m. Meeting and discussion with Dr. Bettencourt (Abobada) and Dr. Crespo (Plant Improvement Station, Elvas) on sheep production in Portugal.

Thursday, March 24

8:30 a.m. Drs. Bettencourt, Gama, Sá and Hausler drove to the station at Vale Formoso, toured the pasture work with Dr. David Crespo, and saw the Campanica ewes to be included in the study. Discussed the resource and personnel needs at this station. Drove to Abobada.

2 p.m. Ejaculated and evaluated semen at Abobada station, then tagged and weighed about 200 ewes.

6 p.m. Drs. Gama, Sá and Hausler returned to Lisbon, arriving at 9 p.m.

Friday, March 25

8:30 a.m. Called Evora and Vila Real Universities and made plans for visits to each.

10:30 a.m. Drs. Gama, Salas Henriques, and Hausler drove to Pegões to visit the station.

4:30 p.m. Return to Lisbon, arriving at 5:30 p.m.

Saturday, March 26

Lunch with Dr. Luis Gama.

Sunday, March 27

Lunch with Dr. Glen Purnell.

Monday, March 28

A.M. Met with Kathy Alison, PROCALFER video-tape consultant and Dr. Luis Gama, DGP.

P.M. Worked on seminar presentation.

Tuesday, March 29

A.M. Visit Tondela Station. Drs. Hausler, Gama and Cabral Almeida.

5 p.m. Left Tondela for Macedo de Cavaleiros (Drs. Gama and Hausler). Stopped at University in Vila Real and confirmed our visit for Thursday, March 31. Arrived at Macedo at 8:30 p.m.

Wednesday, March 30 A.M. Visit station and associated properties. Drs. Gama, Campos, Rodriguez and Hausler.

P.M. Meeting in Mirandela regional office with regional Sub-director, Dr. Sampaio.

5:30 p.m. Drove to Vila Real arriving at 7:30 p.m.

Thursday, March 31 A.M. Drs. Gama and Hausler met with Eng. Jorge Manuel Teixeira de Azevedo; discussed their sheep program and areas of cooperation.

3 p.m. Drove to Lisbon, arriving at 9:30 p.m.

Friday, April 1. A.M. Drs. Purnell and Hausler, drove to Santarem. Visited research station at Fonte Boa. Met with Dr. Pires da Costa, sub-director of station (ENZ).

P.M. Worked on seminar materials.

Monday, April 4 Preparation for seminar all day.

Tuesday, April 5 A.M. and P.M. Regular meeting of project team at DGP in Lisbon. Discussed project business and Dr. Hausler presented a seminar entitled "Reproductive Efficiency in Sheep". Dr. Hausler met individually with Dr. Tavares (Venda Nova) and Dr. Marcelino (Alter do Chão).

Wednesday, April 6 A.M. Wrote the "Executive Summary" of report for the US/AID debriefing.

P.M. Had the summary typed. Continued work on the final report.

Thursday, April 7 A.M. Dr. Gama and Hausler drove to Evora, met with Eng. Jose Jeronimo Mira Godinho Avo and his colleagues of the Zootecnia Department, University of Evora. Discussed areas of cooperation, visited their sheep facilities. Returned to Lisbon, arriving at 7:30 p.m.

Friday, April 8

9:30 a.m. US/AID debriefing with Mr. Finberg, Mr. Buchanen (US/AID), Dr. Purnell, Mr. Black (PROCALFER) and Dr. Hausler (consultant).

2:30 p.m. Left Lisbon for return trip to U.S.

Report on The Cooperating Sheep Stations

Abobada

Date of Visit: March 23 - 24, 1983

Person in Charge of Project: Dr. Antonio Bettencourt.

Breed of Sheep: Merina Branca

Resources:

There have recently been acquired 225 ewes of the Merina Branca breed. The breeding pastures are ready, with ample growth to provide a flushing effect. It has been extremely dry in the Alentejo region, and without added rainfall, the pasture situation could be bad later this summer. Presently, the pastures are adequate for the breeding season. At least one of the ewes purchased for the study had a lamb. If many of these ewes are presently pregnant, it could affect the amount of data collected during the primary breeding season this year.

The materials to build the sheep handling area have not yet been delivered to the station. Presently, they will modify the cattle chute for use in weighing the ewes.

Accomplishments:

In discussions with Dr. Bettencourt, he expressed the concern that the Basic Management Program, by its design, would favor the passage of ewes into the secondary breeding season, and away from the primary breeding season. For this reason, he would like approval to advance the secondary breeding season by approximately two weeks, to give these ewes more time for postpartum recovery before entering the primary breeding season. It was agreed to raise this topic in the next monthly meeting of the project team in early April.

While at Abobada, the Basic Management Program was put into effect, with the collection of the first data. Five rams were collected with the electroejaculator, and the semen was analyzed microscopically. Only one of these rams had a good ejaculate in terms of concentration and motility. However, this was the first ejaculation, and they were to be collected again the following week. Also, one ram had some swelling in one testes. This ram should perhaps be eliminated from use in the study. The ewes were identified (ear-tagged) and weighed for the first time during the visit to the station.

Specific Recommendations:

Dr. Bettencourt is currently overloaded with work. He is involved with other projects as well as the general management of this station and the station at Vale Formoso. Although he is doing his best to cooperate fully with the Basic Management Program, it is obviously going to conflict with some of his other duties from time to time. To remedy this potential problem, Dr. Bettencourt has requested, by letter, support from the Regional Directorate of Agriculture to hire a technician to assist him, with duties assigned specifically to the National Sheep Improvement Program (see Attachment 6). This person would assist in data collection at both the Abobada station and the station at Vale Formoso. The consultant views this as a very real problem, and one that deserves support from the Regional Directorate, the DGP and PROCALFER. Whatever necessary resources that are available should be committed to this problem to avoid any unnecessary omissions in the data collection.

Continued efforts should be made to complete the work area for sheep as planned during the last consultants' visit. This will greatly facilitate the collection of data and application of required treatments.

Alcacer do Sal

Date of Visit: March 22, 1983

Person in Charge of Project: Dr. Renato Carolino

Breed of Sheep: Merina Branca

Resources:

The materials for the sheep handling area had arrived at this station at the time of the consultants visit. The area had been constructed by the time of the meeting in Lisbon (April 5). Breeding had begun and the appropriate data had been collected on the ewes to this point. At the time of the visit about 25% of the ewes had been bred. The ewes were on a separate pasture for flushing and had access to mineral salts. Paint on the briskets of the rams was working quite well.

Accomplishments:

The ewes were first weighed on January 20. Breeding began on March 22 with a ram/ewe ratio of 1/20. One hundred ewes are being studied and these include about 22 ewes 4 years old and 27 ewes 5 years old. Shearing will take place on April 16, with the classification of the wool to be done on samples taken on April 6. Semen examinations were performed as scheduled. All treatments and vaccinations normal to the flock have been accomplished.

Alter do Chao

Date of Visit: April 5, 1983

Person in Charge of Project: Dr. Jose Marcelino Tavares

Breed of Sheep: Fleischaaf x Merina Branca,

Merina Precoce x Merina Branca

Resources:

Due to scheduling difficulties, the consultant did not visit this station. The following information was obtained by discussing the project with Dr. Marcelino in Lisbon on April 5. The request for materials to build the sheep handling facility has been made. As soon as the materials arrive, work will begin to complete this. The animals are all identified and ready for the start of the trial. The consultant was assured that the resources to begin the trial were all in order and that data collection would begin on May 2, 1983.

Accomplishments:

The shearing of the ewes is set for April 12. The wool will be classified. Breeding is to begin on May 2, which is later than the scheduled time, but is the normal breeding season for that station. Semen collection and analysis has been done once, and will be repeated. The animals have received treatments for parasites and vaccinations as planned. The ewes are receiving minerals and salt, and will be flushed. The ewes are tattooed and paint-branded for identification.

The study will begin with 60 ewes (including 10 ewe lambs) with an average age of 4-5 years.

Specific Recommendations:

Since the breeding has been delayed about 4 weeks this year, it will affect the comparisons that were to have been made. Discussions should be held immediately to set a breeding period that meets both the station needs and the objectives of the Basic Management and Breed Analysis Program. If there is a conflict of these objectives, it should be resolved immediately.

Macedo de Cavaleiros

Date of Visit: March 30, 1983

Person in Charge of Project: Dr. Ovídio Rodriguez
Dr. Amadeu Campos

Breed of Sheep: Churra Badana

Resources:

The work area for sheep has been designed but they are awaiting materials to begin construction. Doubts about the future occupancy of the present station site have led to some uncertainty about constructing the work area. Pasture for flushing and breeding is ready. Semen collection will be accomplished. Breeding is to begin on May 1. Weights had not yet been obtained for the ewes. There are 92 ewes of various ages ready to enter the study. Sheep will be sheared by April 15. Classification will consist of measuring staple and fleece weight. Parasite treatments and vaccinations are up to date. Ewes are tattooed and have ear tags for identification.

Accomplishment:

We visited an 80 ha. site which may become the new station if the current station lease is not renewed. There are no sheds or other facilities at this site. Another possible location for the flock is an abandoned sheep confinement facility nearby the present location. Drs. Hausler, Gama, Rodriguez and Campos visited the regional headquarters in Mirandela and talked with Regional Sub-Director, Dr. Sampaio. He indicated that all efforts to keep the flock in its present location will be exerted. It was decided to build the sheep handling area on the present site.

Paul da Serra

Date of Visit: March 23, 1983

Person in Charge of Project: Dr. Mario Costa

Breed of Sheep: Campanica

Resources:

The station has an area of 173 ha., of which 120 ha. are in pasture (unimproved, native grass). In addition, there are 4 ha. of irrigated pasture. The station is beginning a five year stocking rate study, with four lots and two replications, the stocking rates being 1.5, 2.5, 3.5 and 4.5 animals/ha. A total of 22 ha. will be devoted to this trial, with 72 ewes. There are 300 Campanica ewes at the station, and the Basic Management and

Breed Evaluation Program can be carried out with the ewes and pasture not involved with the stocking rate study. The station produces hay on the station for use during dry periods. Lambing is done on pasture, occasionally in a shed. The terrain is very hilly and the soil is very rocky. Semen testing of rams is available through the regional direction of agriculture. Veterinarians of the region routinely provide semen testing service for livestock producers who request this. All ewes are identified with ear tags. They presently have no permanent identification, but are interested in tattoos. They have no sheep handling facility, but are planning to build one with the financial support of the regional directorate. The breeding season is normally April to May, with no secondary breeding season.

Accomplishments:

The consultant and Dr. Gama visited the regional direction offices in Portimao, and the station. We saw the pastures and the ewe flock. The objectives and Procedures of the Basic Management and Breed Evaluation Program were discussed with Dr. Costa. A detailed report on the station facilities was presented to Dr. Hausler.

Specific Recommendations:

This regional station should be included in the National Sheep and Goat Improvement Program. The added information on the Campanica breed as well as representation of the Algarve region in the program will be valuable to the success of the Program. Efforts to build a sheep handling area should move forward with haste. Dr. Costa should be included in the participants to travel to the U.S. for the short courses in small ruminant production in June-August, 1983.

Pegoes

Date of Visit: March 25, 1983

Person in Charge of Project: Henrique Salas Henriques

Breed of Sheep: Saloia

Resources:

Final plans for the sheep working area are complete and the request for the resources has been made. Preparations for the beginning of the primary breeding season have begun. Arrangements have been made for the classification of the wool. Shearing was set for the week of April 4. All ewes are tattooed and wearing a collar for identification. Irrigated pastures are ready for flushing. Vaccinations and mineral supplementation are ready as planned. Semen collection and evaluation will be done during the week of April 11.

Accomplishments:

The consultant, Dr. Gama and Dr. Henriques discussed the breeding seasons, particularly in regards to the secondary breeding season. Currently, at this station, ewes are bred on a continuous basis from May to October. Dr. Henriques favors breaking this into two breeding seasons as the Basic Management Program calls for. However, he is meeting some resistance to this idea from his superiors.

Specific Recommendations:

The breeding season should be broken into two distinct periods as planned in the Basic Management Program.

Tondela

Date of Visit: March 29, 1983

Person in Charge of Project: Dr. Cabral Almeida

Breed of Sheep: Serra da Estrela (Preta and Branca)

Resources:

Work has begun on the handling area to be built. The area is being paved with rock. Materials for construction of the corrals, etc., have not yet arrived at the station. Animal identification is accomplished and two years of milk production records have been recorded. The ewes are in excellent condition; this station has excellent pastures. Wiring of the barns is being done although the hookup to the electric lines has not yet been accomplished. Medications are up to date and the animals have access to minerals and salt. Flushing can be accomplished on improved pastures. Shearing and wool classification arrangements have to be made right away. Evaluation of semen will be done at shearing time. The data collection will be on approximately 120 Friserra ewes and 50 ewes of each of the Serra da Estrela Branca and Serra da Estrela Preta breeds.

Accomplishments:

Drs. Hausler, Gama and Almeida discussed the site selection for the sheep handling area. Definite plans for this should be complete very soon. The general area has been selected and is being paved with rock. The layout of the chutes and pens is still flexible. Pastures and hay production at this station are excellent.

Vale Formoso

Date of Visit: March 24, 1983

Person in Charge of Project: Dr. Jose Antonio Bettencourt

Breed of Sheep: Campanica

Resources:

There are about 160 Campanica ewes, however some appeared to be bred already (one had a newborn lamb with her). These ewes were obtained specifically for this project. At least 140 of these ewes will go with the rams with the hope that 100 ewes can then be selected for the project. There are numerous projects going on at this station. The farm manager must split his time between the needs and desires of several researchers, and therefore may not always collect data essential to the Basic Management Program. The pastures look good, as do the ewes. Handling facilities for the sheep are in adequate at the present time.

Accomplishments:

Discussed with Dr. Bettencourt the need for technical help for the success of the program at Abobada and Vale Formoso. Particularly at the latter station, the consultant feels a definite need for support.

Specific Recommendations:

A request for technical help has been submitted to the regional director (see Attachment 6). It is important to the success of the Basic Management and Breed Evaluation Program that this request be granted. This may require support in some form from the DGP and/or PROCALFER. The data collected at these stations will be the only data representative of the Alentejo region and thus is very important to the success of the National Sheep and Goat Improvement Program.



OPTIMIZAÇÃO DA PRODUÇÃO DE OVINOS NO ALENTEJO

I - INTRODUÇÃO

Na região do Alentejo existem actualmente cerca de 800 000 ovelhas da raça Merino Branco que possuem variáveis graus de introdução de Merino Precoce e Fleischschaf, e representam 40% do efectivo ovino nacional.

Os animais destas raças encontram-se adaptados às duras condições do meio, característica que deve ser mantido, embora seja desejável a melhoria da sua produtividade, utilizando adequadas técnicas de manejo.

Existem da parte dos serviços oficiais de Agricultura e Pecuária, algumas acções tendentes a melhorar a qualidade dos produtos obtidos, recorrendo a cruzamentos de ovelhas da raça considerada com carneiros Merino Precoce, Fleischschaf e Ile de França com aquisição de reprodutores e posterior venda nos produtores e ao controle dos livros genealógicos destas três raças de ovinos. A prática descontrolada de cruzamentos de raças tipo carne com ovelhas Merino Branco, faz correr o risco de em poucos anos estarmos perante um efectivo ovino não adaptado às condições possíveis de exploração nesta região

Contudo um esquema de selecção e melhoramento e utilização dos ovinos alentejanos em cruzamentos, exige um perfeito conhecimento das suas potencialidades produtivas e de adaptação no meio, para o que se torna indispensável efectuar um controle e registo das suas produções em sistemas de exploração utilizados no Alentejo, que nos permitirã:

- a) Determinar as características dos sistemas de produção e potencialidades dos animais.
- b) Realizar o melhoramento.
- c) Gerir adequadamente as explorações sob os aspectos técnico e económico.

1 -

- a) Título - Optimização da produção de ovinos no Alentejo
- b) Sector - Departamento de Zootecnia
Universidade de Évora



2 - Pessoal Responsável

- a) Científico - Professor Doutor Nuno Maria de Villas Boas Potes.
- b) Executivo - Dr. José Antunes Afonso de Almeida
Dr. Artur Armando de Moura Marinho
Dr.^a Ofélia Pereira Bento
Dr.^a Maria José Calado Vila Viçosa Barrisco
Dr. José Luiz Tirapicos Nunes
Eng^o Zoot. Carlos José dos Reis Roquete
Eng^o Zoot. José Jerónimo Hira Codinho Avó
Dr. Américo José do Monte Costa
Eng^o Agr. Pedro Cabral Duarte da Silveira

3 - Instituição principal e cooperantes

- a) Universidade de Évora
- b)
- c)

4 - Localização do projecto

- a) Departamento de Zootecnia - Universidade de Évora
- b) Herdade da ~~Mitica~~^{Sobral} - Viana do Alentejo
- c) Herdade da Almocreva - Beja
- d) Herdade do Tojal - São Cristovão Montemor-o-Novo
- e) Herdade do Encoural - Santiago do Encoural Montemor-o-Novo
- f) Herdade do Pego de Lobo de Cú - Portel
- g) Companhia das Lezírias - Samora Correia
- h) Possibilidades de atarparamento a outras herdades, com o respectivo acrescento de despesas.

5 - Duração do Projecto

- 5 - 8 anos, tendo em atenção os sistemas de rotações culturais praticados e em estudo no Alentejo.



6 - Sumário

Esta linha de investigação visa:

- a) Determinar a produtividade dos ovinos Merino Branco do Alentejo, em sistemas de manejo utilizados na região.
- b) Determinar a resposta produtiva dos ovinos da raça Merino Branco a novos sistemas de manejo (alimentar, reprodutivo, etc.)
- c) Testagem do crescimento pós-desmame e selecção dos ovinos Merino Branco.
- d) Estudo das características de carcaça
- e) Testagem de vários cruzamentos industriais com raças tipo carne.
- f) Elaboração de esquemas de manejo a partir dos resultados obtidos e sua difusão pelos produtores de ovinos da região.

II - Descrição do Projecto

1 - Descrição do problema técnico e ser resolvido

Preende-se com o desenvolvimento deste projecto de investigação adquirir um conhecimento profundo da produtividade dos ovinos Merino Branco do Alentejo, em alguns sistemas de manejo praticados na região e estudar o seu potencial produtivo de maneira a poder-se estabelecer novos sistemas de manejo, ao alcance dos produtores de ovinos. Desta forma procurar-se incrementar a produção de ovinos no Alentejo, melhorando a sua produtividade física e, aumentando a rentabilidade da exploração.

2 - Metas específicas do projecto de investigação

- a) Avaliação da produtividade dos ovinos Merino Branco em alguns sistemas utilizados no Alentejo.

Parâmetros a medir:

- Crescimento dos borregos
- Variação do peso e condição corporal das ovelhas ao longo



do ano.

- Eficiência dos sistemas alimentares
- Eficiência dos sistemas reprodutores
- Características das carcaças
- Estado higio-sanitário dos efectivos.

b) Potencial produtivo dos ovinos da raça Merino Branco em condições óptimas de manejo alimentar, reprodutivo e higio-sanitário.

c) Seleção dos ovinos Merino Branco

d) Testagem de cruzamentos dos ovinos Merino Branco com outras raças de ovinos.

e) Difusão de novas técnicas de produção de ovinos, tentativa de implementação de técnicas adequadas de manejo alimentar e reprodutivo.

3 - Metodologia proposta e métodos de avaliação de resultados

a) Avaliação da produtividade dos ovinos Merino Branco em alguns sistemas utilizados no Alentejo.

19- Identificação de animais.

Os animais adultos serão identificados por tatuagem na orelha e número visível na la, e os animais jovens por brinco na orelha.

20- Controle de produções.

O controle de produções será efectuado mediante visita mensal de um controlador e pelo produtor, por meio de registos em três tipos de documentos.

Registos de parições com:

- data do parto
- sexo do borrego
- nascimento simples ou duplo
- peso do borrego ao nascimento
- número do pai e da mãe ou somente da mãe
- observações

24



Folhas de peso

- Os controladores mensalmente durante a visita pesarão todos os borregos presentes, individualmente

Informação mensal

- Durante a visita mensal o controlador deverá procurar obter do produtor:
 - informação sobre a evolução do efectivo por estagiários de animais
 - mortalidade
 - abortos detectados
 - causas de eliminação de ovelhas
 - intervenções sanitárias

2º Crescimento dos borregos

Peso ao nascimento
peso aos 10 dias*
peso aos 30 dias*
peso aos 75 dias*
peso aos 90 dias*
peso de idade ao desmame

* Estes pesos ^{serão} calculados com base nas pesagens mensais

Nota: Para o tratamento estatístico de resultados, todos estes dados serão corrigidos segundo:

- O meio de exploração
- o sistema de exploração
- a época de cobrição
- idade de cobrição
- idade da ovelha
- sexo do borrego
- tipo de nascimento (simples ou múltiplo)
- sistema de cria.



49- Variação do peso e condição corporal das ovelhas ao longo do ano.

- Amostragem de 100% das ovelhas de cada exploração
- Pesagens mensais e simultânea avaliação da condição corporal pelo método de palpação das apófises vertebrais lombares

50- Produção de lã

Avaliada por pesagem directa do velo

60- Eficiência dos sistemas reprodutivos

- Prolificidade nº de borregos nascidos por parto
- Sazonalidade sexual medida através da prolificidade e fertilidade dos rebanhos e possivelmente pelo perfil hormonal das ovelhas da raça
- Capacidade leiteira da ovelha, determinada pelo crescimento do borrego entre os 10 e os 30 dias de vida
- Fertilidade individual medida através da relação entre o número de gestações e as hipóteses de fecundação vezes 100
- Fertilidade de rebanho calculada pela relação nº de ovelhas gestantes dividida por nº de ovelhas presentes à cobertura x 100.
- Idade a puberdade
- Taxa de ovulação
- Intervalo parto 1ª ovulação
- Capacidade reprodutiva do macho medida por:
 - exame clínico
 - espermograma
 - libido
 - Consistência e desenvolvimento testicular
 - Idade à puberdade



79- Eficiência dos sistemas alimentares com base em:

Resultados produtivos obtidos

Controle do valor nutritivo dos alimentos utilizados

Produtividade das pastagens

Produção de MS MO MOD e proteína por hectare e sua variação dentro de cada ano e ao longo dos anos

Evolução da composição florística das pastagens dentro de cada ano e ao longo dos anos.

89- Características das carcaças

Rendimento ao abate e possivelmente dissecação de carcaças para determinação da percentagem de peso das peças nobres.

99- Estado higio-sanitário dos efectivos

Controle e registo do estado higio-sanitário dos ovinos

b) Potencial produtivo dos ovinos da raça Merino Branco em condições óptimas de manejo.

- Estudo dos parâmetros referidos (a) em animais amostrados nas explorações submetidas a manejo considerado ideal

Nota: A testagem efectuar-se-á na Herdade Experimental da Mitra sendo os animais divididos em lotes

c) Selecção de ovinos Merino Branco

Selecção ao nível da exploração os animais serão seleccionados para os caracteres prolificidade e capacidade maternal tentando manter a adaptabilidade ao meio.

d) Testagem de cruzamento dos ovinos Merino Branco com outras raças de ovinos.

Com base nos resultados obtidos em relação ao crescimento e características de carcaça testar-se-ão três raças tipo carne em cruzamento com ovelhas Merino Branco.



Este estudo poderá ser realizado nas Herdades Experimentais da Universidade e em explorações privadas.

-) Tentativa de implementação de técnicas adequadas de manejo
- Efeito da suplementação energética nas últimas seis semanas de gestação sobre o peso do borrego ao nascimento e nas 4 primeiras semanas de lactação sobre o crescimento dos borregos
- Complementação dos borregos em pastoreio de zonas exclusivas ou em creep feeding
- Efeito do "flushing"
- Efeito do carneiro
- Sincronização das ovulações e inseminação artificial

III - Justificação Científica e Pedagógica

a. - Importância científica

Tendo em consideração a inexistência de qualquer estudo desta natureza sobre os ovinos da raça considerada, e dada a aptidão da região do Alentejo para a produção ovina, e da máxima relevância a realização deste trabalho, com vista a optimização da produção ovina no Alentejo. A elaboração de um esquema de manejo reprodutivo alimentar e higio-sanitário de acordo com os resultados obtidos, e a sua difusão pelos produtores, permitirão a médio prazo a melhoria da productividade e rentabilidade da produção ovina no Alentejo.

b. - Importância para o ensino e formação académica

Dada a existência de uma licenciatura em Engenharia Zootécnica na Universidade de Évora, em que grande parte das disciplinas estão a cargo do Departamento de Zootecnia, o projecto pode contribuir para apoio às aulas práticas das disciplinas de:

Melhoramento Animal
Nutrição Animal I
Nutrição Animal II
Reprodução e Lactação I
Reprodução e Lactação II

Alimentação Animal
Ovinotecnia
Estágio



Do mesmo modo, os trabalhos subjacentes ao projecto, servirão para a preparação de teses de Mestrado e doutoramento, a que os docentes se tem de dedicar para fazerem a sua promoção académica.

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ENCARGOS PREVISTOS

	APOIO EXISTENTE	APOIO ADICIONAL REQUERIDO	
		EXISTENTE NO PAIS	Nº EXISTENTE NO PAIS
PESSOAL:	Ovinotecnia = 1 Nutrição e Alimentação - 3 Reprodução - 3 Pastagens e Forragens - 1 Higiene e Sanidade - 1 Carnes e Carcaças - 1 Técnicos Laboratório - 3	Controladores - 2 com a formação de Engº Técnicos Agrários	
LABORATORIOS:	Nutrição Reprodução Parasitologia		
EQUIPAMENTOS:	Cercas eléctricas	1 veiculo todo-o-terreno Brincos e Alicates de aplicação Alicates catuadores Tinta Balança Pórtatil Manga desmontável Fichas registos Redes electricas Arreios marcadores Caiolas colheita de amostras Equipamento de inseminação	Terminal de computador Aparelho de Ultrassons Endoscópio



INSTALAÇÕES		1 coberto para testagem de animais	
CANPOS EXP.	Parques para pas- toreio de animais		
AQUISIÇÃO SER.		1 tarefairo anual- mente	
RAÇÕES		Para animais em testagem	
PRODUTOS QUIMICOS	Material para análises quimi- cas		Material para sin- cronização de ci- clos
OUTROS		Recipientes pa- ra amostras	
ANIMAIS	Animais pertencentes às explo- rações conside- radas		Reprodutores mas- culinos



1º ANO	DESCRIMINAÇÃO	APOIO ADEACIONAL REQUERIDO	
		EXISTENTE NO PAIS	N/EXISTENTE NO PAIS
EQUIPAMENTO:	Terminal de computador		700
	Rede para cercas electricas	100	
	Alicates de aplicação de brincos e Trituradores	30	
	Balança portátil	90	
	Manga desmontável	50	
	Arreios marcadores	50	
	Aparelho de ultrassons		50
	Gaiolas para amostras	100	
	Endoscópio		150
	Pistolets especulos etc.	50	
CONSTRUÇÕES	Coberto para identificação de animais e tinta para tatuagens	75	
	Fichas para registos	30	
	Recipientes para amostras	20	
	Produtos quimicos	50	
	Medicamentos para sincronização de ciclos		50
	Palhetas de inseminação artificial	5	
RAÇÕES	Testagem de animais	200	
AQUISIÇÃO DE SERVIÇOS	1 assalariado ao longo do ano	350	
PESSOAL:	2 controladores Engº Técnicos Agrários		
DIVERSOS	Material de consumo 1 veiculo todo-o-terreno	100	



SUB-TOTAIS		1 800	950
TOTAL			2 750
2º ANO			
MATERIAL NÃO INVENTARIÁVEL	Brincos para identificação de animais e tinta para tatuagem	90	
	Fichas para registos	36	
	Produtos quimicos	60	
	Medicamentos para sincronização de ciclos	60	
	Palhetas para inseminação artificial	6	
RAÇÕES	Testagem de animais	140	
ANIMAIS	Machos para cruzamentos		800
ACQUIÇÃO DE SERVIÇOS	1 assalariado ao longo do ano	420	
PESSOAL	2 controladores Engº Tecº Agrários		
DIVERSOS	Material de consumo 1 veiculo todo-o-terreno com atrelado	120	
SUB-TOTAIS		1 032	800
TOTAL			1 832
3º ANO			
MATERIAL NÃO INVENTARIÁVEL	Brincos para identificação de animais e tinta para tatuagens	108	
	Fichas para registos	45	
	Produtos quimicos	72	
	Medicamentos para sincronizações de ciclos	72	
	Palhetas para inseminação artificial	8	



RAÇÕES	Testagem de animais	270	
AQUISIÇÃO DE SERVIÇOS	1 assalariado ao longo do ano	504	
PESSOAL	2 controladores Eng ^o Tec ^o Agrários		
DIVERSOS	Material de consumo 1 veículo todo-o-terreno com atrelado	134	
TOTAL		1 213	



Para o cálculo do Apcio adicional requerido (centos) para o 4º ano e seguinte partir-se-á do Total para o 3º ano com um acréscimo de 20% anualmente.

4º ano	- - - - -	1 456	centos
5º "	- - - - -	1 747	"
6º "	- - - - -	2 197	"
7º "	- - - - -	2 636	"
8º "	- - - - -	3 163	"

AGENDA DE TRABALHOS

LOCAL - D.G.P.

DATA - 5 de Abril de 1983

HORÁRIO - 9,30 h

1. - Relatório Individual de cada uma das estações (5 - 10 minutos)
2. - Ajustamento do protocolo de trabalhos das estações
3. - Seminário sobre eficiência reprodutiva em ovinos
4. - Projectão do filme sobre "manejo do parto"
5. - Escolher temas para próximos filmes de extensão (Identificação e registos, sanidade, etc.)
6. - Informações sobre os estágios nos Estados Unidos
 - 6.1. - Definição dos temas a tratar em cada um dos cursos específicos nos E.U., e das pessoas indigitadas;
 - 6.2. - Prenchimento e entrega dos boletins de inscrição para os estágios nos E.U..

Suggested Topics for the Short
Courses at Utah State University

Collection, Analysis and Processing Data:

Utilization of Microcomputers
Identification
Sampling Techniques

Economics:

Calculation of Costs of Production and Profitability
Model Simulation
Project Analysis

Animal health:

Brucellosis
Mycoplasmosis
Chlamidiosis
Clostridiosis

Pathology of Young Sheep

Parasites: strategies of combat

For the above would like to study:

Epidemiology
Diagnostics
Profilaxis
Treatment

Control of Predators
Nutritional Diseases

Extension

Methodology of information transfer to producers.
Administration of an extension service.
Evaluation of information for extension.

Reproduction and Genetics

Control of Reproduction in Males and Females.
Artificial Insemination and Embryo Transfer.
Methods of Testing: Production vs. Progeny tests.
Selection and Crossbreeding.

Function of Herd Books.

Synthetic Breeds (i.e. building a new breed).
Conservation of Genetic Reserves.

Nutrition and Pastures

Review of Nutrient Requirements.

Improved and Natural Pastures (range), Technical Analysis
and Economics

Utilization of Agro-industrial Waste Products, Brush, etc.
for sheep and goats.

Species and cultivars adapted to acid soils.

Weed Control

Pathology of Nutrition (diagnosis).

Production, harvest, conservation and utilization of forages.

Fences and related equipment.

Estação Regional de Fomento Pecuário do Baixo-Alentejo

Exm^o. Senhor
 Director Regional de Agricultura do
 Alentejo
 Quinta da Malagueira
 7001 Évora Codex

177

10.º3/990/000

Serpa, 1983/03/14

RECRUTAMENTO DE PESSOAL TÉCNICO

As acções que vamos iniciar sobre a avaliação das Performances Produtivas e Reprodutivas das raças ovina, merino Branco e Camanica num projecto integrado-Frocalfer e Direcção Geral da Pecuária-tornam presente a necessidade de se dispor de um Técnico Agrícola de formação superior para acompanhar tais trabalhos no domínio da produção forrageira.

Vários aspectos devem no meu entender, ser particularmente focados tais como, utilização de correctivos e fertilizantes dado que a maior parte dos solos em que vamos trabalhar, apresentam sinais evidentes de acidez.

A quantificação dos custos, a avaliação dos benefícios são elementos que deverão ser colhidos e trabalhados por pessoal qualificado para ulterior utilização em programas de vulgarização.

Outros aspectos existem tão importantes como estes e relacionados com drenagens, parqueamentos e utilização das pastagens, que igualmente merecem adequada programação e subsequente trabalho.

Nestas circunstâncias proponho a V. Ex^o.o recrutamento do Engenheiro Agrônomo Isaias Manuel Abrantes Picarra, que bem conhece a região por dela ser natural, aqui reside dando por consequência garantia de uma actuação futura. Considera-se urgente este recrutamento dado que os trabalhos já se iniciaram.

Com os melhores cumprimentos

COPY

Department of State

TELEGRAM

PAGE 01 LEBLON 01194 111731Z 4742 060024 A103431

ACTION OFFICE AGRI-01
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UNCLAS LISBON 01194

AIDAC

FOR USDA/OICD - CORY EDWARDS

E. O. 12356

SUBJECT: PASA POR-0023-P-AG-1028-00. REQUEST FOR BASIC
MANAGEMENT AND BREED EVALUATION SPECIALISTS - DR. WARREN
FOOTE OR DR. CARL HAUSLER.

1. - GOP AND USAID REQUEST CONSULTANT FOR BASIC MANAGEMENT
AND BREED EVALUATION PROGRAM DR. WARREN FOOTE OR DR. CARL
HAUSLER FOR PERIOD MARCH 15 TO APRIL 8, TO PROVIDE SUPPORT
IN THE INITIATION OF THE PROGRAM, THE CONSULTANT AND
COUNTERPARTS WILL:

- A) VISIT EACH OF THE 7 SELECTED LOCATIONS DURING THE
BREEDING SEASON TO ASSURE THAT NECESSARY DATA WILL BE
COLLECTED AND THAT APPROPRIATE PROCEDURES ARE FOLLOWED.
DURING THESE VISITS ON THE JOB TRAINING WILL BE STRESSED
FOR LOCAL PERSONNEL.
B) COORDINATE THE MANAGEMENT WORK WITH THE UNIVERSITIES
AT EVORA AND TRAS-OS-MONTES E ALTO DOURO AS WELL AS THE
NATIONAL ZOOTECNICAL STATION.
C) REVIEW FINAL TEXTS AND FORMAT OF TWO EXTENSION BULLE-
TINS UNDER PRODUCTION ON FOOTE CARE AND CULLING AND
SELECTION OF BREEDING ANIMALS.
D) CONDUCT A SEMINAR FOR THE LEADERS OF THE SEVEN SITES.
E) WORK WITH THE VIDEO TAPE AND INFORMATION SPECIALISTS
TO PRODUCE APPROPRIATE PUBLICITY PARTICULARLY RELATED TO
PROCALFER.
F) PREPARE A REPORT ON THIS PHASE OF THE MANAGEMENT
PROGRAM WITH RECOMMENDATIONS FOR NECESSARY ACTIONS.
HOLMES

Handwritten notes: Sent to chosen? Foote, A.A.P., IMPORTANT!, Scope for P.O. by Foote, 19/2/83