isnar inform
Information for Agricultural Research Managers

A Minithesaurus of Keywords for Use with INFORM

Barry Nestel

| 4 Guidelines

The International Service for National Agricultural Research (ISNAR) began operating at its headquarters in The Hague, the Netherlands, on September 1, 1980. It was established by the Consultative Group on International Agricultural Research (CGIAR), on the basis of recommendations from an international task force, for the purpose of assisting governments of developing countries to strengthen their agricultural research. It is a nonprofit autonomous agency, international in character, and nonpolitical in management, staffing, and operations.

Of the 13 centers in the CGIAR network, ISNAR is the only one that focuses primarily on national agricultural research issues. It provides advice to governments, upon request, on research policy, organization, and management issues, thus complementing the activities of other assistance agencies.

ISNAR has active advisory service, research, and training programs.

ISNAR is supported by a number of the members of CGIAR, an informal group of donors that includes countries, development banks, international organizations, and foundations.

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AGROVOC Descriptors

information systems; management; research; scientists; research projects; resource allocation

CABI Descriptors

agricultural research; management; information systems

Contents

Preface

Lack of good information can be a major impediment to effective management of research. Managers need to know exactly what experiments their scientists are doing, with which facilities and at what cost. Without this information, managers cannot perform, or improve, essential functions such as planning, programming, monitoring and evaluation.

- Effective agricultural research policy cannot be set without good information on which to base decisions.

- Sound agricultural research management is impossible without good information on which to base programs.

To help national agricultural research systems (NARS) address their needs for better information and to improve information use for planning and policy setting, ISNAR has developed a management information system called INFORM — *INFO*rmation for agricultural *R*esearch *M*anagers.

INFORM is described in a series of guidelines, which are supported by a set of training manuals. The first volume (Part 1) provides an introduction to INFORM. The second volume (Part 2) describes the INFORM methodology.

There are two reference guidelines — Part 3, which describes revenue and cost codes, and this volume (Part 4), which is a minithesaurus of keywords that can be used for the classification and analysis of research projects.

Part 4 is built up from the AGRIS/CARIS information system of the United Nations Food and Agricultural Organization (FAO). It provides a selective set of descriptors for agricultural research which are derived from FAO's AGROVOC thesaurus but are presented here in a simplified format suitable for use by persons who are not documentation specialists.

The minithesaurus offers a core list of keywords for agricultural research. It is open-ended and can be added to by NARS to meet specific national needs. It serves as a supplement to the overall INFORM methodology presented in Part 2 of these guidelines.

Acknowledgements

ISNAR acknowledges the support of the Asian Development Bank for funding this study through a Technical Assistance Agreement (RETA 5341) for Strengthening Agricultural Research Management in Asia with Special Emphasis on Improving Information Systems.

Much of the field work associated with the collection of data from which the methodology was subsequently developed was carried out in Sri Lanka. This would not have been possible without the support of the Sri Lankan Council for Agricultural Research (CARP), particularly Dr. D. T. Wettasinghe, its Executive Secretary, and the directors of the research institutes associated with the Council, whose assistance is particularly appreciated.

The cooperation of India's National Academy for Agricultural Research Management (NAARM), the Southeast Asian Ministers of Education Organization Regional Center for Graduate Study and Research in Agriculture (SEARCA), and the Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (PCARRD) in planning and running two workshops in the second half of 1990, at which earlier drafts of this document were discussed extensively, is gratefully acknowledged. Feedback from workshop participants was obtained through a structured review process, focusing on the substance, presentation, and applicability of the material. Revised drafts were produced after each of the workshops, and the documents in their present form have benefited considerably from participants' comments and suggestions.

Many colleagues at ISNAR and from other national agricultural research organizations contributed ideas and suggestions throughout the development of this volume. The assistance at ISNAR of Peter Ballantyne, Byron Mook, and Govert Gijsbers is especially acknowledged.

1 Background Note: The Use of Keywords

Keywords are descriptors used to index the content of a document or database. If the document or database is concerned with agricultural research, the keywords can serve as a tool to permit the quick and easy identification (and retrieval) of information concerning research on one topic or theme.

Keywords are a potentially useful tool for research managers. For example, by assigning keywords to each research experiment, it is possible to identify experiments related to a common keyword. If a consistent system of keywording is applied throughout, this will make it possible to rapidly determine which of a large number of experiments have a common component — such as research on a specific pest or disease. With keywords, it is possible to quickly select those associated with the selected keyword from a few or thousands of experiments.

Keywords are also particularly useful for sharing project information among research and management personnel. They help to determine **who** is doing **what** research, and **where**. Information of this kind is essential in order to avoid duplication of research activities, and it facilitates cross-program linkages between related projects. It can be used by management, at various levels, to identify the breadth of the ongoing or planned program in any specific area identified by a keyword. In addition, it can be useful when planners or policymakers require information on a specific topic.

All these uses of keywords are possible using INFORM because the project database contains keywords for each research activity. The keywords used are selected from a controlled vocabulary and represent descriptors that a program leader, a station director, a director general, or a planner or policymaker can use to obtain specific information. In a small research system with only one research station, the value of keywords may be limited since all of the senior research staff are likely to know the whole program. However, in a country with many different research institutes, this is unlikely to be the case and keywords can be used for identifying the national scope of a particular activity, or for analyzing the overall national program in order to assess its balance or to help plan for change.

In selecting keywords for research management, it is important to use only words for which some form of search, or sort, might be required. Thus, there is limited value in using "yield" or "production" as keywords, because a high percentage of projects in a crop institute will encompass these two activities. It is likewise undesirable to create keywords from very obscure terms or words that describe a one-time activity that is unlikely to be repeated or to need searching for.

Since a keyword may only identify one component of a project, it has to be used cautiously in relating activities to budgets. Sorting a database by keywords will show the number of projects out of a given total that have a component relating to the keyword and will also show the magnitude of the research program in the form of the number of experiments associated with the keyword. However, for example, a fertilizer experiment may deal with nitrogen, potassium, phosphorus, and trace elements, and whereas a keyword search for trace elements will identify such an experiment, clearly the whole budget for the experiment will not be used for the trace element component alone.

1.1 AGRIS/CARIS

There are various national, regional, and international wordlists and thesauruses used to identify keywords. The system of keywords and categorization used here is derived from the AGRIS/CARIS scheme of the Food and Agriculture Organization of the United Nations (FAO), which is already used in most member countries of FAO. Its use allows INFORM to be linked to national and international databases, particularly AGRIS/CARIS and thus permits the same indexing to be used both for research projects and for the documents arising from them.

AGRIS (Agricultural Research Information System) is an information system developed by FAO to provide access to agricultural literature. It is currently operational in more than 100 countries. CARIS (Current Agricultural Research Information System) is a system that follows the same lines as AGRIS but which operates in a lesser, but growing, number of countries. It provides developing countries with a mechanism to exchange, among themselves and with developed countries, information on their respective research activities. For both AGRIS and CARIS, FAO has developed a number of guidelines, working tools, and training materials. To facilitate their use, FAO also developed a CATEGORIZATION SCHEME which classifies documents or *activities* in a small number of *program areas* (which we have called CARIS 1), which are then subdivided into specific *subject groupings* (CARIS 2) (Figure 1.1).

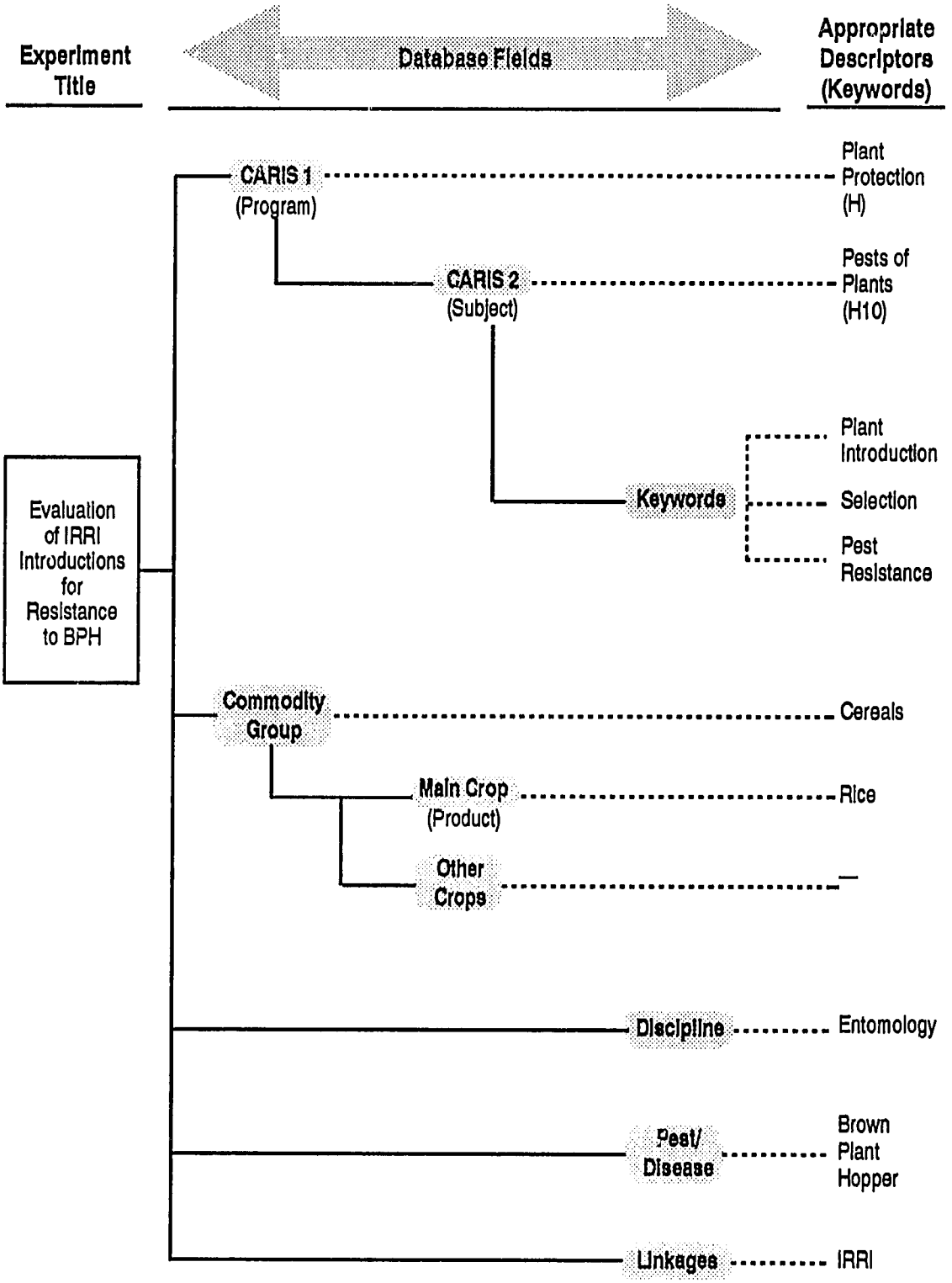

Figure 1.1. The INFORM keyword hierarchy — an example

The AGRIS/CARIS system uses more than 15,000 keywords to index bibliographic information and research activities. These keywords are presented in a controlled vocabulary, which is contained in a multilingual thesaurus of agricultural terminology called AGROVOC. This leads the user from nonpreferred terms to preferred terms (*descriptors* or *keywords*).

The system functions in a hierarchical context. At the CARIS 1 level, the CATEGORIZATION SCHEME lists 17 main programs, of which 12 are used by INFORM to index agricultural research. Each of these 12 program areas is denoted by a letter in the coding system (see Chapter 3).

At the CARIS 2 level, the 12 main *program areas* are divided into about 100 *subject groupings*, of which about 80 are important from an agricultural research standpoint. Each subject grouping can be identified by a number following its program letter. Thus, the program area "Agricultural Machinery and Engineering," which is coded by the letter *N* has three CARIS-2 subject groupings: N01 (agricultural engineering), N10 (agricultural structures), and N20 (agricultural machinery and equipment).

A researcher indexing an agricultural engineering activity would initially use the CATEGORIZATION SCHEME to seek program area and keywords under code *N*. Likewise, a forestry researcher would look first at code *K*, and an animal scientist at code *L*, in order to determine the main program area in which his/her research is classified. The subject groupings are not rigid. For example, agroforestry, which could be regarded as Forestry (*K*), is coded by AGRIS/CARIS under Cropping Systems (*F*).

For the purposes of management information, as contrasted to library and documentation indexing, INFORM reduced the AGROVOC thesaurus into a manageable working list of keywords of most use to research managers. This produced a core descriptor list, or minithesaurus, of about 600 words, each of which is found in AGROVOC.

In order to keep the core descriptor list as concise as possible, certain categories of descriptors were excluded from the database field entitled "keywords" and were placed in separate fields. This has facilitated using INFORM for management purposes. It results in separate fields for the following:

- the type of COMMODITY involved in the research;
- the MAIN CROP involved;
- OTHER CROPS in the experiment;

- the principal DISCIPLINE of the research;
- PESTS and DISEASES associated with the research;
- LINKAGES with other agencies or organizations.

As a result, the keyword package developed at ISNAR has nine fields in the database. These can be searched singly or in combinations. The specific fields are listed below and an example of their use is shown in Figure 1.1.

1. The CATEGORIZATION SCHEME **Program Area**, e.g., plant science and production;
2. The CATEGORIZATION SCHEME **Subject Grouping**, e.g., plant genetics and breeding;
3. The **Technical and Economics Keywords** listed in Chapter 4 of this document;
4. A field that describes the main **Commodity Group** involved in the research;
5. A field that describe the **Main Crop**;
6. A field that describes **Other Crops** involved in the research project;
7. A field recording the principal **Discipline** of the research project.
8. A field for describing **Pests and Diseases** using either common names, local names or Latin names;
9. The **Linkage Keywords**, also shown in Chapter 4 — these record the association of the research experiment with other agencies or organizations;

Fields 1 to 8 are 254 characters long in the computer software used for INFORM so that they can encompass a number of descriptors, although in practice it is rare that the number in any field will need to exceed six to eight words.

1.2 Program and Subject Area Keywords

Fields 1 and 2 (Program and Subject) should normally be found in the CATEGORIZATION SCHEME list given in Chapter 3 of this document.

Since this is a selected (rather than comprehensive) list, there may be occasions when additions will be needed from the CATEGORIZATION SCHEME master list, which is held by all national AGRIS/CARIS centers. INFORM differs slightly from CARIS in that it only permits a single CATEGORIZATION SCHEME classification, whereas CARIS allows up to three. (The reason for the difference is related to the fact that INFORM is also used for program budgeting, for which multiple categorizations would present some problems.) For pests and diseases of Fish and Forests, INFORM has created some new CATEGORIZATION SCHEME codes, which duplicate the CARIS ones in Animal and Plant Protection, respectively.

1.3 Technical and Economics Keywords

Field 3 contains the core descriptors. These are listed in Chapter 4 and represent a selected AGROVOC list covering agricultural research. Other words can be added to this list from AGROVOC or may be "unique" for use within a particular country. The list is a guideline and its use is in no way mandatory. However, if the list becomes too long and detailed at the national level, its value may be limited for program management. Thus, additions to the core list should be made only after careful consideration.

If suitable keywords for an experiment cannot be found under the most appropriate CATEGORIZATION SCHEME head, a search should first be made in related areas other than the one being inputted to the database. For example, "windbreaks" is indexed under forestry but may be an appropriate descriptor for a plant production experiment. To facilitate this type of search, an alphabetical list of keywords accompanies each of the 12 main program areas in Chapter 4, and an alphabetical master list is included as Chapter 5.

The alphabetical list for keywords in the plant production **program** contains descriptors from all 12 of the **subject** groupings in plant production. Thus, in selecting keywords for a fertilizer experiment dealing with intercropping on arid soils, the first stage would be to look under heading F04, which deals with fertilizing and to select which — if any — of the keywords listed there are appropriate to the experiment in question. Intercropping does not appear under the fertilizer heading but it is grouped under cropping systems (F08). Arid zones is also found under this head, but both words appear in the master alphabetical list that accompanies the subject (*F*) grouping.

If an appropriate keyword is not found in this document, it can be added either from AGROVOC or as a unique word for a specific country. To illustrate this latter point, Chapter 6 includes a list of keywords that are not in the core list but were specifically added when INFORM was used in one Asian country. Examples shown include "Breeder Seed" in Code F03 and a group

of words in code J15 dealing specifically with postharvest technology for rubber and tea (some aspects of which lie outside of FAO's AGRIS/CARIS mandate).

Some words are duplicated in different subject groupings. Thus, bacterioses is used as a keyword in the plant (H30), animal (L73), fish (M14), and forestry (K72) programs. If an overall national search is required under this head, all programs can be screened using the same keyword. However, a separation can also be made by sorting on CATEGORIZATION SCHEME codes to separate codes H30, L73, K72, and M14.

To date, the use of INFORM has indicated a very high frequency of use for the following words relating to germplasm improvement: selection, progeny testing, and testing. These words describe some, but not all, of the steps in the germplasm evaluation process. AGROVOC does not have appropriate descriptors to describe such activities as preliminary and advanced trials, and if more detailed activities such as these are required to be included as descriptors, they can be included as unique words (Chapter 6).

1.4 Commodity Group Keywords

This field indexes research activities so that they fall into either resource-based research or one of 14 major commodity groups. The subject is treated in more detail in Part 2 of these guidelines (Methodology), which provides a check list of commodities to assist selection.

1.5 Main Crop Keywords

This field indicates the most important crop or livestock species involved in the research; a checklist to assist selection is also provided in Part 2 of these guidelines.

1.6 Other Crop Keywords

This is an additional field for use when more than one plant or animal species is involved. Subjective judgment may be required to decide which are the **main** and which are the **other** crops in some situations. In all cases, the crop (or animal) name should be consistent with the checklist in Part 2.

1.7 Pest Disease Keywords

The PEST DISEASE field is designed to accommodate the names of pests and disease agents and the conditions caused by them, so that they can be

identified by a keyword search. AGROVOC contains several thousand names of pests, vectors, diseases, and biological control agents. It is difficult to provide a short core list of these for general use as many are region- or even country-specific. In addition, some pests and diseases are generally known by the Latin names of their causative agents, whereas others are commonly referred to by common names, local names, or even abbreviations (e.g., *BPH* for brown plant hopper of rice). Given this situation, each country will need to develop its own approach to nomenclature for this field, preferably using AGROVOC as a guide.

Consistency in nomenclature, using the same principles as for keywords, is desirable, although the search facility of a modern database program (such as REFLEX 2) enables several options to be considered at the same time. For example, brown plant hopper of rice could be searched for simultaneously under the options of Brown Plant Hopper, BPH, *Fulgoroidea*, and a local name such as *Wereng* (Indonesia).

INFORM has not developed a core list but has left this field open to national choice.

1.8 Linkages Keywords

For LINKAGES, the thesaurus contains a special section that is not taken from AGROVOC. The appropriate keywords can be selected either from the list shown or from additions to it to reflect the national situation. The linkage keywords are grouped under the headings of national, regional, international, and CGIAR, but in some cases more than one group will be relevant. Thus, a national coordinated variety trial (NCVT) might be funded by the Asian Development Bank (ADB) and done in collaboration with FAO and the International Rice Research Institute (IRRI). In such circumstances, the appropriate linkage keywords would be NCVT, ADB, FAO, IRRI. Note that these come from four separate groupings in the list.

1.9 Country-Specific Keywords

The keyword system described here has been tested in an annual program with nearly 1,700 experiments in a medium-sized NARS. For most experiments, the core list was sufficient; the few additional unique keywords that were required are listed in Chapter 6. This illustrates that, except for rubber and tea processing, as mentioned earlier, the number of country-specific keywords that it was felt necessary to add to the core list was very limited.

2 How to Select Keywords for Inputting to the Database

This chapter describes very briefly how to select from the CATEGORIZATION SCHEME and the keyword lists in order to input to the database.

There are two steps in doing this:

Step 1 **Identify the program area and subject grouping (chapter 3) in the categorization scheme**

In the database, the CARIS 1 field is equivalent to the PROGRAM AREA denoted by a letter in Chapter 3, e.g., *F* represents PLANT SCIENCE AND PRODUCTION.

The CARIS 2 field is equivalent to the SUBJECT GROUPING which is represented by a number, e.g., in the PLANT SCIENCE program CROP HUSBANDRY is denoted as F01.

Step 2 **Look in the core keyword checklist (chapter 4) under the appropriate program and subject headings**, e.g., F01, to find suitable keywords. If these words are not adequate, screen the Program *F* alphabetical list for other keywords (Programs *H* and *P* may also be useful) and also the alphabetical master list (Chapter 5).

Country-specific words not found in the alphabetical list can be added as keywords. They should be chosen from the AGROVOC thesaurus if possible.

Names of pests and diseases (either common or Latin names) should also be added to the PEST DISEASE field. Names of crops and commodities should **not** be entered as keywords because they should have been entered in the separate database fields for MAIN CROP, OTHER CROPS or COMMODITY GROUP (see Figure 1.1).

Some names, especially crop names, can be spelled in several ways, e.g., soyabean, soybean, soybeans. It is important to be consistent, and preferably, the AGROVOC spelling should be used. This is usually a plural, e.g., Soybeans, Cowpeas, Pigeon Peas, Mung Beans, Root Crops, Byproducts,

Apples, etc. A list of the more common crops is provided in Part 2 of the INFORM guidelines.

Some terms will only be learned with practice, for example the AGROVOC descriptor is "herbicides" and not "weedkillers." Similarly "upland" is not a descriptor but "highland" and "upland crops" are. Snap beans and pole beans are not, but kidney beans is. This minithesaurus and the check lists in Part 2 of INFORM are designed to help the user acquire familiarity with the terms used.

In a few instances (denoted in Part 2), INFORM has used common names rather than the (Latin) AGROVOC descriptors because it was felt that the AGROVOC term was not in common use, e.g., *Psophocarpus tetragonolobus* (AGROVOC) is shown as winged bean (INFORM). In such cases, both terms are included in the checklists to facilitate cross-indexing with CARIS.

To operate the keyword system effectively at the national level, **one person must control the addition of country-specific keywords.** This is to ensure the following:

- They do not duplicate existing descriptors.
- They are consistent in their use nationally.
- They are in the AGROVOC directory.

It is desirable that the person responsible for this task collaborate with the national AGRIS/CARIS coordinator.

3 Categorization Scheme

3.1 Program Areas and Subject Groupings

This chapter lists the CARIS CATEGORIZATION SCHEME CODES used by INFORM. The Program Areas (denoted by INFORM as CARIS 1) are denoted by LETTERS and the Subject Groupings (CARIS 2) are denoted by NUMBERS. The non-CARIS codes used in INFORM (see Chapter 4) are indicated with an asterisk (*).

E ECONOMICS, DEVELOPMENT AND RURAL SOCIOLOGY
- E10 — Agricultural economics and policies
- E11 — Land economics and policies
- E14 — Development economics and policies
- E16 — Production economics
- E20 — Organization, administration and management of agricultural enterprises
- E21 — Agro-industry
- E50 — Rural sociology
- E70 — Trade, marketing and distribution

F PLANT SCIENCE AND PRODUCTION
- F01 — Crop husbandry
- F02 — Plant propagation
- F03 — Seed production and processing
- F04 — Fertilizing
- F06 — Irrigation
- F07 — Soil cultivation
- F08 — Cropping patterns and systems
- F30 — Plant genetics and breeding
- F60 — Plant physiology and biochemistry
- F61 — Plant physiology — Nutrition
- F62 — Plant physiology — Growth and development
- F63 — Plant physiology — Reproduction

H PLANT PROTECTION
- H10 — Pests of plants
- H20 — Plant diseases
- H50 — Miscellaneous plant disorders
- H60 — Weeds and weed control

J POSTHARVEST TECHNOLOGY
- J11 — Handling, transport, storage and protection of plant products
- J12 — Handling, transport, storage and protection of forest products
- J13 — Handling, transport, storage and protection of animal products

J14 — Handling, transport, storage and protection of fish products
J15 — Handling, transport, storage and protection of non-food or non-feed products

K FORESTRY
K10 — Forestry production
K50 — Processing of forest products
K71* — Forestry — Pests
K72* — Forestry — Diseases

L ANIMAL SCIENCE, PRODUCTION AND PROTECTION
L01 — Animal husbandry
L02 — Animal feeding
L10 — Animal genetics and breeding
L20 — Animal behaviour
L50 — Animal physiology and biochemistry
L51 — Nutritional physiology
L52 — Animal growth physiology
L53 — Reproductive physiology
L70 — Veterinary science — General
L72 — Pests of animals
L73 — Animal diseases
L74 — Miscellaneous animal disorders

M FISHERIES AND AQUACULTURE
M01 — Fisheries and aquaculture — General
M11 — Fisheries production
M12 — Aquaculture production
M13* — Pests of fish
M14* — Diseases of fish
M15* — Miscellaneous disorders of fish

N AGRICULTURAL MACHINERY AND ENGINEERING
N01 — Agricultural engineering
N10 — Agricultural structures
N20 — Agricultural machinery and equipment

P NATURAL RESOURCES AND ENVIRONMENT
P01 — Nature conservation and land resources
P05 — Energy resources management
P06 — Renewable energy resources
P10 — Water resources and management
P11 — Drainage
P30 — Soil science and management
P31 — Soil surveys and mapping
P32 — Soil classification and genesis
P33 — Soil chemistry and physics
P34 — Soil biology
P35 — Soil fertility
P36 — Soil erosion, conservation and reclamation
P40 — Meteorology and climatology

Q PROCESSING OF AGRICULTURAL PRODUCTS

Q02 — Food processing and preservation
Q03 — Food contamination and toxicology
Q04 — Food composition
Q52 — Feed processing and preservation
Q53 — Feed contamination and toxicology
Q54 — Feed composition
Q55 — Feed additives
Q60 — Processing of non-food or non-feed agricultural products
Q70 — Processing of agricultural wastes
Q80 — Packaging

T POLLUTION

T01 — Pollution

U METHODOLOGY

U10 — Mathematical and statistical methods
U30 -- Research methods
U40 — Surveying methods

LINKAGES

National*
Regional*
International*
CGIAR*
CGIAR-related*

4 Lists of Core Keywords

This chapter lists the keywords selected from the AGROVOC thesaurus for use in the INFORM minithesaurus. The keywords are grouped according to the CATEGORIZATION SCHEME CODES used in Chapter 3.

In CARIS many descriptors for forestry are indexed under plant science and many for fisheries are indexed under animal science. However, to facilitate the analysis of forestry and fisheries research in INFORM, some new subject groupings have been created (using non-CATEGORIZATION SCHEME titles). This enables, for example, pests and diseases of fish to be indexed separately from pests and diseases of livestock. The new (non-AGRIS) codes are as follows:

INFORM code		Included in AGRIS/CARIS under
K71	Forestry Pests	H10
K72	Forestry Diseases	H20
M13	Pests of Fish	L72
M14	Diseases of Fish	L73
M15	Miscellaneous Disorders of Fish	L74

E/ AGRICULTURAL ECONOMICS

Code Subject Groupings and Relevant Keywords

E 10 AGRICULTURAL ECONOMICS AND POLICIES

Econometrics, Food security, Food supply, Planning, Policy

E 11 LAND ECONOMICS AND POLICIES

Land suitability, Land use, Tenure

E 14 DEVELOPMENT ECONOMICS AND POLICIES

Diffusion of information, Innovation adoption, Technology transfer

E 16 PRODUCTION ECONOMICS

Production controls, Production costs, Production data, Production economics, Production functions

E 20 FARM MANAGEMENT, ORGANIZATION, ADMINISTRATION

Domestic gardens, Extensive farming, Farm inputs, Farm management, Farm surveys, Farming systems, Fishery management, Forest management, Intensive farming, Subsistence farming

E 21 AGROINDUSTRY

Agroindustrial complexes, Coffee industry, Dairy industry, Feed industry, Food industry, Meat industry, Oilseed industry, Rubber industry, Sugar industry, Tea industry

E 50 RURAL SOCIOLOGY

Community development, Nomadism, Role of women, Social behaviour, Social structure, Surveys

E 70 TRADE, MARKETING DISTRIBUTION

Market intelligence, Market prices, Market research, Marketing, Marketing policies, Price policies, Prices, Supply balance

E/ AGRICULTURAL ECONOMICS

Alphabetical List of Keywords for Agricultural Economics

E21	Agroindustrial complexes
E21	Coffee industry
E50	Community development
E21	Dairy industry
E14	Diffusion of information
E20	Domestic gardens
E10	Econometrics
E20	Extensive farming
E20	Farm inputs
E20	Farm management
E20	Farm surveys
E20	Farming systems
E21	Feed industry
E20	Fishery management
E10	Food security
E21	Food industry
E10	Food supply
E20	Forest management
E14	Innovation adoption
E20	Intensive farming
E11	Land suitability
E11	Land use
E70	Market intelligence
E70	Market prices
E70	Market research
E70	Marketing
E70	Marketing policies
E21	Meat industry
E50	Nomadism
E21	Oilseed industry
E10	Planning
E10	Policy
E70	Price policies
E70	Prices
E16	Production controls
E16	Production costs
E16	Production data
E16	Production economics
E16	Production functions
E50	Role of women
E21	Rubber industry
E50	Social behaviour
E50	Social structure
E20	Subsistence farming
E21	Sugar industry
E70	Supply balance
E50	Surveys
E21	Tea industry
E14	Technology transfer
E11	Tenure

F/ CROP PRODUCTION

Code Subject Groupings and Relevant Keywords

F 01 CROP HUSBANDRY

Crop management, Crown, Cultivation, Defoliation, Grassland management, Greenhouse crops, Harvesting frequency, Hydroponics, Induced flowering, Plant growth substances, Plant nurseries, Planting date, Potting, Pruning, Shade, Spacing, Thinning, Transplanting

F 02 PLANT PROPAGATION

Budding, Cell culture, Cloning, Grafting, Meristem culture, Plant propagation, Rootstocks

F 03 SEED PRODUCTION

Agronomic characters, Germinability, Seed production, Seed storage, Seed treatment, Viability

F 04 FERTILIZING

Azolla, Calcium, Cover plants, Inorganic fertilizers, Magnesium, Nitrogen, Organic fertilizers, Phosphorus, Potassium, Residual effects, Soil conditioners, Urea, Wastes

F 06 IRRIGATION

Furrow irrigation, Irrigation, Sprinkler irrigation, Subsurface irrigation, Trickle/drip irrigation

F 07 SOIL CULTIVATION

Burning, Mulching, Mulches, Ploughing, Soil cultivation, Soil sterilization, Tillage

F 08 CROPPING PATTERNS AND SYSTEMS

Agroforestry, Arid zones, Catch cropping, Cropping systems, Domestic gardens, Fallow systems, Highland, Intensive farming, Intercropping, Lowland, Models, Multiple cropping, Plant animal relations, Rain fed farming, Ratooning, Relay cropping, Rotational cropping, Shifting cultivation, Soil exhaustion, Upland crops

F 30 PLANT GENETICS AND BREEDING

Crossbreeding, Disease resistance, Earliness, Gene banks, Genetic engineering, Genetic resources (plant collections), Genetics, Germplasm, Hybridization, Inbreeding, Mutation, Pest resistance, Plant biotechnology, Plant breeding, Plant introduction, Progeny testing (germplasm evaluation), Selection, Testing

F 60 PLANT PHYSIOLOGY AND BIOCHEMISTRY

Biochemistry, Chemical composition, Drought tolerance, Plant physiology, Plant water relations, Respiration, Transpiration

F 61 PLANT PHYSIOLOGY — NUTRITION

Chlorine, Dry matter content, Foliar application, Iron, Leaves, Metabolic disorders, Metabolism, Mineral metabolism, Photosynthesis, Plant nutrition, Plant soil relations, Sodium, Sulphur, Symbiosis, Trace elements, Water uptake, Zinc

F 62 PLANT PHYSIOLOGY — GROWTH AND DEVELOPMENT

Flowering, Germination, Growth inhibitors, Growth promotors, Morphogenesis, Phytohormones, Postharvest physiology, Rooting

F 63 PLANT PHYSIOLOGY — REPRODUCTION

Asexual reproduction, Fruiting, Haploidy, Pollination

F/ CROP PRODUCTION

Alphabetical List of Keywords for Crop Production

F08 Agroforestry
F03 Agronomic characters
F08 Arid zones
F63 Asexual reproduction
F04 Azolla
F60 Biochemistry
F02 Budding
F07 Burning
F04 Calcium
F08 Catch cropping
F02 Cell culture
F60 Chemical composition
F61 Chlorine
F02 Cloning
F04 Cover plants
F01 Crop management
F08 Cropping systems
F30 Crossbreeding
F01 Crown
F01 Cultivation
F01 Defoliation
F30 Disease resistance
F08 Domestic gardens
F60 Drought tolerance
F61 Dry matter content
F30 Earliness
F08 Fallow systems
F62 Flowering
F61 Foliar application
F63 Fruiting
F06 Furrow irrigation
F30 Gene banks
F30 Genetic engineering
F30 Genetic resources (plant collections)
F30 Genetics
F03 Germinability
F62 Germination
F30 Germplasm
F30 Germplasm evaluation (see progeny testing)
F02 Grafting
F01 Grassland management
F01 Greenhouse crops
F62 Growth inhibitors
F62 Growth promotors
F63 Haploidy
F01 Harvesting frequency
F08 Highland
F30 Hybridization
F01 Hydroponics
F30 Inbreeding
F01 Induced flowering
F04 Inorganic fertilizers
F08 Intensive farming
F08 Intercropping
F61 Iron
F06 Irrigation
F61 Leaves
F08 Lowland
F04 Magnesium
F02 Meristem culture
F61 Metabolic disorders
F61 Metabolism
F61 Mineral metabolism
F08 Models
F62 Morphogenesis
F07 Mulches
F07 Mulching
F08 Multiple cropping
F30 Mutation
F04 Nitrogen
F04 Organic fertilizers
F30 Pest resistance
F04 Phosphorus
F61 Photosynthesis
F62 Phytohormones
F02 Plant propagation
F08 Plant animal relations
F30 Plant biotechnology
F30 Plant breeding
F01 Plant growth substances
F30 Plant introduction
F01 Plant nurseries
F61 Plant nutrition
F60 Plant physiology
F61 Plant soil relations
F60 Plant water relations
F01 Planting date
F07 Ploughing
F63 Pollination
F62 Postharvest physiology
F04 Potassium
F01 Potting
F30 Progeny testing (germplasm evaluation)
F01 Pruning
F08 Rain fed farming
F08 Ratooning
F08 Relay cropping
F04 Residual effects
F60 Respiration
F62 Rooting
F02 Rootstocks
F08 Rotational cropping

Alphabetical List of Keywords for Crop Production (continued)

F03 Seed production
F03 Seed storage
F03 Seed treatment
F30 Selection
F01 Shade
F08 Shifting cultivation
F61 Sodium
F07 Soil cultivation
F04 Soil conditioners
F08 Soil exhaustion
F07 Soil sterilization
F01 Spacing
F06 Sprinkler irrigation
F06 Subsurface irrigation
F61 Sulphur
F61 Symbiosis
F30 Testing
F01 Thinning
F07 Tillage
F61 Trace elements
F60 Transpiration
F01 Transplanting
F06 Trickle/drip irrigation
F08 Upland crops
F04 Urea
F03 Viability
F04 Wastes
F61 Water uptake
F61 Zinc

H/ CROP PROTECTION

Code Subject Groupings and Relevant Keywords

H 10 PESTS OF PLANTS

Acarina (mites), Biological control, Bird control, Chemical control, Ecology, Injurious birds, Injurious mammals, Insecta (Insects), Insect control, Integrated control, Isoptera (termites), Losses, Mite control, Nematoda (nematodes), Nematoda control, Pest control, Pest resistance, Pest survey, Pesticides, Pests, Population changes, Taxa (taxonomy)

H 20 PLANT DISEASES

Bacterioses (bacterial diseases), Biological control, Blights, Chemical control, Chemical resistance, Diagnosis, Disease control, Disease resistance, Disease surveys, Epidemiology, Fungal diseases, Integrated control, Losses, Mycoplasma, Taxa (taxonomy), Vectors, Viruses

H 50 MISCELLANEOUS PLANT DISORDERS

Deficiency diseases, Genetic disorders, Injurious factors, Metabolic disorders, Pesticides, Phytotoxicity, Temperature resistance, Toxicity

H 60 WEEDS AND WEED CONTROL

Biological control, Chemical resistance, Ecology, Evaluation, Herbicides, Integrated control, Morphogenesis, Plant physiology, Taxa (Taxonomy), Weed control, Weeding, Weeds

H/ CROP PROTECTION

Alphabetical List of Keywords for Crop Protection

H10 Acarina (mites)
H20 Bacterioses (bacterial diseases)
H10 Biological control
H20 Biological control
H60 Biological control
H10 Bird control
H20 Blights
H10 Chemical control
H20 Chemical control
H20 Chemical resistance
H60 Chemical resistance
H50 Deficiency diseases
H20 Diagnosis
H20 Disease control
H20 Disease resistance
H20 Disease surveys
H10 Ecology
H60 Ecology
H20 Epidemiology
H60 Evaluation
H20 Fungal diseases
H50 Genetic disorders
H60 Herbicides
H10 Injurious birds
H50 Injurious factors
H10 Injurious mammals
H10 Insect control
H10 Insecta (insects)
H10 Integrated control
H20 Integrated control
H60 Integrated control
H10 Isoptera (termites)
H10 Losses
H20 Losses
H50 Metabolic disorders
H10 Mite control
H60 Morphogenesis
H20 Mycoplasma
H10 Nematoda (nematodes)
H10 Nematode control
H10 Pest control
H10 Pest resistance
H10 Pest survey
H10 Pesticides
H50 Pesticides
H10 Pests
H50 Phytotoxicity
H60 Plant physiology
H10 Population changes
H60 Taxa (taxonomy)
H10 Taxa (taxonomy)
H20 Taxa (taxonomy)
H50 Temperature resistance
H50 Toxicity
H20 Vectors
H20 Viruses
H60 Weed control
H60 Weeding
H60 Weeds

J/ POSTHARVEST TECHNOLOGY

Code Subject Grouping and Relevant Keywords

J 11 HANDLING, TRANSPORT, STORAGE AND PROTECTION OF PLANT PRODUCTS

Alcohols, Antioxidants, Controls, Drying, Grading, Handling, Molasses, Moulds, Plant products, Postharvest losses, Quality, Storage, Testing, Yeasts

J 12 HANDLING, TRANSPORT, STORAGE AND PROTECTION OF FOREST PRODUCTS

Forest products, Grading, Handling, Postharvest losses, Storage, Wood preservation

J 13 HANDLING, TRANSPORT, STORAGE AND PROTECTION OF ANIMAL PRODUCTS

Animal products, Drying, Handling, Meat, Milk, Postharvest losses, Storage

J 14 HANDLING, TRANSPORT, STORAGE AND PROTECTION OF FISHERIES AND AQUACULTURE PRODUCTS

Drying, Fish products, Handling, Postharvest losses, Storage

J 15 HANDLING, TRANSPORT, STORAGE AND PROTECTION OF NON-FOOD AND NON-FEED AGRICULTURAL PRODUCTS

Byproducts, Controls, Drying, Handling, Non-food industries, Non-food or Non-feed agricultural products, Postharvest losses, Quality, Storage, Testing

J/ POSTHARVEST TECHNOLOGY

Alphabetical List of Keywords for Postharvest Technology

J11 Alcohols
J13 Animal products
J11 Antioxidants
J15 Byproducts
J11 Controls
J15 Controls
J11 Drying
J13 Drying
J14 Drying
J15 Drying
J14 Fish products
J12 Forest products
J11 Grading
J12 Grading
J11 Handling
J12 Handling
J13 Handling
J14 Handling
J15 Handling
J13 Meat
J13 Milk
J11 Molasses
J11 Moulds
J15 Non-food industries
J15 Non-food or non-feed agricultural products
J11 Plant products
J11 Postharvest losses
J12 Postharvest losses
J13 Postharvest losses
J14 Postharvest losses
J15 Postharvest losses
J11 Quality
J15 Quality
J11 Storage
J12 Storage
J13 Storage
J14 Storage
J15 Storage
J12 Wood preservation
J11 Testing
J15 Testing
J11 Yeasts

K/ FORESTRY

Code Subject Groupings and Relevant Keywords

K 10 FORESTRY PRODUCTION

Afforestation, Agroforestry (use F08), Burning, Deforestation, Ecology, Forest mensuration, Forest plantations, Forest surveys, Fuelwood, Intensive farming, Ornamental trees, Plant breeding, Plant nurseries, Plant propagation, Progeny testing, Provenance, Regeneration, Screening, Seed production, Selection, Silviculture, Soil conservation, Spacing, Tree nurseries, Urban forestry, Weed control, Windbreaks

K 50 FORESTRY PROCESSING

Celluloses, Forest products, Processing, Pulp and paper industry, Sawnwood, Timber trees

K 71 FORESTRY — PESTS

Acarina (mites), Biological control, Bird control, Chemical control, Disease resistance, Ecology, Injurious birds, Injurious mammals, Insect control, Insecta (Insects), Integrated control, Losses, Mite control, Nematoda (nematodes), Nematode control, Pest control, Pest resistance, Pest surveys, Pesticides, Pests, Population changes, Taxa (Taxonomy)

K 72 FORESTRY — DISEASES

Bacterioses (baterial diseases), Biological control, Chemical control, Chemical resistance, Diagnosis, Disease control, Disease resistance, Disease surveys, Epidemiology, Forest pathology, Fungal diseases, Integrated control, Losses, Mycoplasma, Plant diseases, Taxa (taxonomy), Vectors, Viruses

K/ FORESTRY

Alphabetical List of Keywords for Forestry

K71	Acarina (mites)
K10	Afforestation
K10	Agroforestry (use F08)
K72	Bacterioses (bacterial diseases)
K71	Biological control
K72	Biological control
K71	Bird control
K10	Burning
K50	Celluloses
K71	Chemical control
K72	Chemical control
K72	Chemical resistance
K10	Deforestation
K72	Diagnosis
K72	Disease control
K71	Disease resistance
K72	Disease resistance
K72	Disease surveys
K10	Ecology
K71	Ecology
K72	Epidemiology
K10	Forest mensuration
K72	Forest pathology
K10	Forest plantations
K50	Forest products
K10	Forest surveys
K10	Fuelwood
K72	Fungal diseases
K71	Injurious birds
K71	Injurious mammals
K71	Insect control
K71	Insecta (Insects)
K71	Integrated control
K72	Integrated control
K10	Intensive farming
K71	Losses
K72	Losses
K71	Mite control
K72	Mycoplasma
K71	Nematoda (nematodes)
K71	Nematode control
K10	Ornamental trees
K71	Pest control
K71	Pest resistance
K71	Pest survey
K71	Pesticides
K71	Pests
K10	Plant breeding
K72	Plant diseases
K10	Plant nurseries
K10	Plant propagation
K71	Population changes
K50	Processing
K10	Progeny testing
K10	Provenance
K50	Pulp and paper industry
K10	Regeneration
K50	Sawnwood
K10	Screening
K10	Seed production
K10	Selection
K10	Silviculture
K10	Soil conservation
K10	Spacing
K72	Taxa (taxonomy)
K71	Taxa (Taxonomy)
K50	Timber trees
K10	Tree nurseries
K10	Urban forestry
K72	Vectors
K72	Viruses
K10	Weed control
K10	Windbreaks

L/ ANIMAL SCIENCE, PRODUCTION AND PROTECTION

Code Subject Groupings and Relevant Keywords

L 01 ANIMAL HUSBANDRY

Animal husbandry, Apiculture, Aviculture, Carcass composition, Egg production, Grazing systems, Intensive husbandry, Livestock management, Meat production, Milk production, Poultry meat, Sericulture, Transhumance, Wool production

L 02 ANIMAL FEEDING

Animal feeding, Chemical analysis, Fattening, Feeding equipment, Feedlots, Feeds, Nutritional requirements, Quality, Rations

L 10 ANIMAL GENETICS AND BREEDING

Animal biotechnology, Animal breeding, Artificial insemination, Crossbreeding, Disease resistance, Embryo transfer, Semen preservation, Gene banks, Gene pools, Genetic engineering, Genetic resources (animal collections), Germplasm, Hybridization, Induced mutation, Progeny testing, Selection

L 20 ANIMAL BEHAVIOUR

Behaviour

L 50 ANIMAL PHYSIOLOGY AND BIOCHEMISTRY

Animal physiology, Biochemistry

L 51 NUTRITIONAL PHYSIOLOGY

Animal nutrition, Digestibility, Digestive absorption, Feed conversion efficiency, Feed intake, Metabolism, Mineral metabolism, Nutritional disorders, Rumination

L 52 ANIMAL GROWTH PHYSIOLOGY

Growth

L 53 ANIMAL REPRODUCTIVE PHYSIOLOGY

Fertility, Oestrous cycle, Reproduction, Sex hormones

L 70 VETERINARY SCIENCE — GENERAL

Animal health, Immunology

L 72 VETERINARY SCIENCE — PESTS

Acarina (mites), Biological control, Bird control, Chemical control, Ecology, Helminths, Injurious birds, Injurious mammals, Insect control, Insecta (insects), Integrated control, Losses, Metastigmata (ticks), Mite control, Nematoda (nematodes), Pest control, Pest resistance, Pest survey, Pesticides, Pests, Physical control, Population changes, Taxa (taxonomy)

L 73 VETERINARY SCIENCE — DISEASES

Bacterioses (bacterial diseases), Biological control, Chemical control, Chemical resistance, Diagnosis, Disease control, Disease resistance, Disease surveys, Epidemiology, Immunity, Integrated control, Losses, Mycoplasma, Mycoses, Pathology, Protozoal infections, Taxa (taxonomy), Viruses, Zoonoses

L 74 VETERINARY SCIENCE — MISCELLANEOUS

Deficiency diseases, Genetic disorders, Herbicides, Hypersensitivity, Injurious factors, Malnutrition, Metabolic disorders, Pesticides, Poisoning, Toxicity

L/ ANIMAL SCIENCE

Alphabetical List of Keywords for Animal Science

L72	Acarina (mites)
L10	Animal biotechnology
L10	Animal breeding
L02	Animal feeding
L70	Animal health
L01	Animal husbandry
L51	Animal nutrition
L50	Animal physiology
	Animal power (see P05)
L01	Apiculture
L10	Artificial insemination
L01	Aviculture
L73	Bacterioses (bacterial diseases)
L20	Behaviour
L50	Biochemistry
L72	Biological control
L73	Biological control
L72	Bird control
L01	Carcass composition
L02	Chemical analysis
L72	Chemical control
L73	Chemical control
L73	Chemical resistance
L10	Crossbreeding
L74	Deficiency diseases
L73	Diagnosis
L51	Digestibility
L51	Digestive absorption
L73	Disease control
L10	Disease resistance
L73	Disease resistance
L73	Disease surveys
L72	Ecology
L01	Egg production
L10	Embryo transfer
L73	Epidemiology
L02	Fattening
L51	Feed conversion efficiency
L51	Feed intake
L02	Feeding equipment
L02	Feedlots
L02	Feeds
L53	Fertility
L10	Gene banks
L10	Gene pools
L74	Genetic disorders
L10	Genetic engineering
L10	Genetic resources (animal collections)
L10	Germplasm
L01	Grazing systems
L52	Growth
L72	Helminths
L74	Herbicides
L10	Hybridization
L74	Hypersensitivity
L73	Immunity
L70	Immunology
L10	Induced mutation
L72	Injurious birds
L74	Injurious factors
L72	Injurious mammals
L72	Insect control
L72	Insecta (insects)
L72	Integrated control
L73	Integrated control
L01	Intensive husbandry
L01	Livestock management
L72	Losses
L73	Losses
L74	Malnutrition
L01	Meat production
L74	Metabolic disorders
L51	Metabolism
L72	Metastigmata (ticks)
L01	Milk production
L51	Mineral metabolism
L72	Mite control
L73	Mycoplasma
L73	Mycoses
L72	Nematoda (nematodes)
L51	Nutritional disorders
L02	Nutritional requirements
L53	Oestrous cycle
L73	Pathology
L72	Pest control
L72	Pest resistance
L72	Pest survey
L72	Pesticides
L74	Pesticides
L72	Pests
L72	Physical control
L74	Poisoning
L72	Population changes
L01	Poultry meat
L10	Progeny testing
L73	Protozoal infections
L02	Quality
L02	Rations
L53	Reproduction
L51	Rumination
L10	Selection

Alphabetical List of Keywords for Animal Science (continued)

L10	Semen preservation
L01	Sericulture
L53	Sex hormones
L73	Taxa (taxonomy)
L72	Taxa (taxonomy)
L74	Toxicity
L01	Transhumance
L73	Viruses
L01	Wool production
L73	Zoonoses

M/ FISHERIES

Code ***Subject Groupings and Relevant Keywords***

M 01 FISHERIES — GENERAL

Continental shelves, Coral reefs, Fisheries, Fishery production, Fishery resources (stock assessment), Limnology, Marine resources, Oceanology

M 11 CAPTURE FISHERIES

Catch composition, Coastal fisheries, Demersal fisheries, Fishing methods, Freshwater, Inland fisheries, Lagoon fisheries, Lake fisheries, Mangroves, Marine fisheries, Pelagic fisheries, Resource depletion, River fisheries

M 12 AQUACULTURE

Aquaculture, Brackish water, Crustacean culture, Fish culture, Fish feeding, Fish ponds, Freshwater, Growth, Induced spawning, Mollusc culture, Mussels, Oyster culture, Prawns (shrimps), Reproduction, Seaweed culture, Water quality

M 13 PESTS OF FISH

Acarina (mites), Biological control, Bird control, Birds, Chemical control, Ecology, Helminths, Injurious mammals, Insect control, Insecta (insects), Integrated control, Losses, Mite control, Pest control, Pest resistance, Pest survey, Pests, Population changes, Taxa (taxonomy)

M 14 DISEASES OF FISH

Bacterioses (bacterial diseases), Biological control, Chemical control, Chemical resistance, Diagnosis, Disease control, Disease resistance, Disease surveys, Epidemiology, Fish diseases, Integrated control, Losses, Mycoplasma, Mycoses, Protozoal infections, Taxa (taxonomy), Viruses

M 15 MISCELLANEOUS DISORDERS OF FISH

Diet, Genetic disorders, Metabolic disorders, Poisoning

M/ FISHERIES

Alphabetical List of Keywords for Fisheries

M13 Acarina (mites)
M12 Aquaculture
M14 Bacterioses (bacterial diseases)
M13 Biological control
M14 Biological control
M13 Bird control
M13 Birds
M12 Brackish water
M11 Catch composition
M13 Chemical control
M14 Chemical control
M14 Chemical resistance
M11 Coastal fisheries
M01 Continental shelves
M01 Coral reefs
M12 Crustacean culture
M11 Demersal fisheries
M14 Diagnosis
M15 Diet
M14 Disease control
M14 Disease resistance
M14 Disease surveys
M13 Ecology
M14 Epidemiology
M12 Fish culture
M14 Fish diseases
M12 Fish feeding
M12 Fish ponds
M01 Fisheries
M01 Fishery production
M01 Fishery resources (stock assessment)
M11 Fishing methods
M11 Freshwater
M12 Freshwater
M15 Genetic disorders
M12 Growth
M13 Helminths
M12 Induced spawning
M13 Injurious mammals
M11 Inland fisheries
M13 Insect control
M13 Insecta (insects)
M13 Integrated control
M14 Integrated control
M11 Lagoon fisheries
M11 Lake fisheries
M01 Limnology
M13 Losses
M14 Losses
M11 Mangroves
M11 Marine fisheries
M01 Marine resources
M15 Metabolic disorders
M13 Mite control
M12 Mollusc culture
M12 Mussels
M14 Mycoplasma
M14 Mycoses
M01 Oceanology
M12 Oyster culture
M11 Pelagic fisheries
M13 Pest control
M13 Pest resistance
M13 Pest survey
M13 Pests
M15 Poisoning
M13 Population changes
M12 Prawns (shrimps)
M14 Protozoal infections
M12 Reproduction
M11 Resource depletion
M11 River fisheries
M12 Seaweed culture
M12 Shrimps (use Prawns)
M14 Taxa (taxonomy)
M13 Taxa (taxonomy)
M14 Viruses
M12 Water quality

N/ AGRICULTURAL ENGINEERING

Code Subject Groupings and Relevant Keywords

N 01 AGRICULTURAL ENGINEERING

Canals, Dams, Fishways, Tanks, Water reservoirs, Wells

N 10 AGRICULTURAL STRUCTURES

Animal housing, Greenhouses, Silos, Storage structures

N 20 AGRICULTURAL MACHINERY AND EQUIPMENT

Animal husbandry equipment, Aquaculture equipment, Cultivation equipment, Equipment, Fishing gear, Forestry equipment, Irrigation equipment

N/ AGRICULTURAL ENGINEERING

Alphabetical List of Keywords for Agricultural Engineering

N10	Animal housing
N20	Animal husbandry equipment
N20	Aquaculture equipment
N01	Canals
N20	Cultivation equipment
N01	Dams
N20	Equipment
N20	Fishing gear
N01	Fishways
N20	Forestry equipment
N10	Greenhouses
N20	Irrigation equipment
N10	Silos
N10	Storage structures
N01	Tanks
N01	Water reservoirs
N01	Wells

P/ NATURAL RESOURCES

Code Subject Groupings and Relevant Keywords

P 01 NATURE CONSERVATION AND LAND RESOURCES

Environmental policies, Germplasm conservation (genetic resources), Wildlife

P 05 ENERGY RESOURCES

Animal power, Energy balance, Wood energy

P 06 RENEWABLE ENERGY RESOURCES

Biomass

P 10 WATER RESOURCES AND MANAGEMENT

Flooding, Groundwater, Groundwater table, Hydrology, New water resources, Water balance, Water conservation, Water quality, Water storage, Watershed management, Watersheds

P 11 DRAINAGE

Drainage

P 30 SOIL SCIENCE AND MANAGEMENT

Land suitability, Soil types

P 31 SOIL SURVEYS AND MAPPING

Cartography, Soil surveys

P 32 SOIL CLASSIFICATION AND GENESIS

Ferralsols, Podzols, Soil classification, Soil morphological features

P 33 SOIL CHEMISTRY AND PHYSICS

Cations, Field capactiy, Infiltration, Isotopes, Soil chemicophysical properties, Soil chemistry, Soil mechanics, Soil testing, Soil water, Soil water balance, pH

P 34 SOIL BIOLOGY

Humus, Inoculation methods, Mycorrhizae, Nitrogen fixation, Rhizobium, Soil microbiology

P 35 SOIL FERTILITY

Aluminium, Iron, Salinity, Soil fertility, Soil toxicity

P 36 SOIL EROSION AND CONSERVATION

Erosion, Reclamation, Runoff, Soil conservation

P 40 METEOROLOGY AND CLIMATOLOGY

Climatology, Meteorology, Microclimate

P/ NATURAL RESOURCES

Alphabetical List of Keywords for Natural Resources

P35 Aluminium
P05 Animal power
P06 Biomass
P31 Cartography
P33 Cations
P40 Climatology
P11 Drainage
P05 Energy balance
P01 Environmental policies
P36 Erosion
P32 Ferralsols
P33 Field capacity
P10 Flooding
P01 Germplasm conservation (genetic resources)
P10 Groundwater
P10 Groundwater table
P34 Humus
P10 Hydrology
P33 Infiltration
P34 Inoculation methods
P35 Iron
P33 Isotopes
P30 Land suitability
P40 Meteorology
P40 Microclimate
P34 Mycorrhizae
P10 New water resources
P34 Nitrogen fixation
P33 pH
P32 Podzols
P36 Reclamation
P34 Rhizobium
P36 Runoff
P35 Salinity
P33 Soil chemicophysical properties
P33 Soil chemistry
P32 Soil classification
P36 Soil conservation
P35 Soil fertility
P33 Soil mechanics
P34 Soil microbiology
P32 Soil morphological features
P31 Soil surveys
P33 Soil testing
P35 Soil toxicity
P30 Soil types
P33 Soil water
P33 Soil water balance
Tanks (see N01)
P10 Water balance
P10 Water conservation
P10 Water quality
P10 Water storage
P10 Watershed management
P10 Watersheds
P01 Wildlife
P05 Wood energy

Q/ FOOD PROCESSING AND PRESERVATION

Code Subject Groupings and Relevant Keywords

Q 02 FOOD PROCESSING AND PRESERVATION
Fermentation, Food preservation, Food technology, Foods, Microbiology, Processing

Q 03 FOOD CONTAMINATION AND TOXICOLOGY
Contamination, Dairy hygiene, Food hygiene, Foods, Meat hygiene, Residues, Toxicity

Q 04 FOOD COMPOSITION
Chemical composition, Controls, Flavor, Foods, Quality

Q 52 FEED PROCESSING AND PRESERVATION
Feed processing, Silage making

Q 53 FEED CONTAMINATION AND TOXICOLOGY
Deterioration, Feeds, Residues, Toxicity

Q 54 FEED COMPOSITION
Chemical composition, Nutritive value

Q 55 FEED ADDITIVES
Feed additives

Q 60 PROCESSING OF NON-FOOD OR NON-FEED AGRICULTURAL PRODUCTS
Antioxidants, Bleaching, Byproducts, Latex, Processing, Viscosity

Q 70 PROCESSING OF AGRICULTURAL WASTES
Animal products, Byproducts, Controls, Plant products, Processing, Quality, Waste disposal

Q 80 PACKAGING
Packaging

Q/ FOOD PROCESSING AND PRESERVATION

Alphabetical List of Keywords for Food Processing and Preservation

Q70	Animal products
Q60	Antioxidants
Q60	Bleaching
Q60	Byproducts
Q70	Byproducts
Q04	Chemical composition
Q54	Chemical composition
Q03	Contamination
Q04	Controls
Q70	Controls
Q03	Dairy hygiene
Q53	Deterioration
Q55	Feed additives
Q52	Feed processing
Q53	Feeds
Q02	Fermentation
Q04	Flavor
Q03	Food hygiene
Q02	Food preservation
Q02	Food technology
Q02	Foods
Q03	Foods
Q04	Foods
Q60	Latex
Q03	Meat hygiene
Q02	Microbiology
Q54	Nutritive value
Q80	Packaging
Q70	Plant products
Q02	Processing
Q60	Processing
Q70	Processing
Q04	Quality
Q70	Quality
Q03	Residues
Q53	Residues
Q52	Silage making
Q03	Toxicity
Q53	Toxicity
Q60	Viscosity
Q70	Waste disposal

T/ POLLUTION

Code Subject Groupings and Relevant Keywords

T01 Pesticides
T01 Pollution
T01 Residues
T01 Soil pollution
T01 Water pollution

U/ METHODOLOGY

Code Subject Groupings and Relevant Keywords

U 10 STATISTICS AND BIOMETRICS
Computer software, Database, Statistical analysis

U 30 RESEARCH METHODS
Laboratory diagnosis, Laboratory equipment, Methods, Soil analysis, Tissue analysis

U 40 SURVEYING METHODS
Aerial surveying, Communication technology, Remote sensing, Surveys

U/ METHODOLOGY

Alphabetical List of Keywords for Statistics and Biometrics

U40 Aerial surveying
U40 Communication technology
U10 Computer software
U10 Database
U30 Laboratory diagnosis
U30 Laboratory equipment
U30 Methods
U40 Remote sensing
U30 Soil analysis
U10 Statistical analysis
U40 Surveys
U30 Tissue analysis

LINKAGES

***(THIS IS A SEPARATE FIELD IN THE DATABASE CALLED* LINKAGES**
THE WORDS BELOW ARE NOT TAKEN FROM AGRIS/CARIS.)

NATIONAL

NCVT (National coordinated variety trials), private sector non-core, public sector non-core, on-farm trials

REGIONAL

SEARCA, IICA, ASIAN DB, AFRICAN DB, BID

INTERNATIONAL

IBRD, FAO, IDRC, ACIAR, GTZ, CIDA, ODA, JICA, USAID, EEC, IFAD, UNDP, UNEP, DANIDA, SIDA, FINIDA

CGIAR

CGIAR, CIMMYT, CIAT, CIP, IFPRI, ISNAR, IBPGR, WARDA, IITA, ILCA, ILRAD, ICRISAT, IRRI

CGIAR-RELATED

AVRDC, ICRAF, IFDC, IBSRAM, IIMI, INIBAP, ICLARM

LINKAGES

Alphabetical List of Keywords for Linkages

ACIAR
African DB
Asian DB
AVRDC
BID
CGIAR
CIAT
CIDA
CIMMYT
CIP
DANIDA
EEC
FAO
FINIDA
GTZ
ISPGR
IBRD
IBSRAM
ICLARM
ICRAF
ICRISAT
IDRC
IFAD
IFDC
IFPRI
IICA
IIMI
IITA
ILCA
ILRAD
INIBAP
IPTP
IRRDB
IRRI
ISNAR
JICA
NCVT (National coordinated variety trials)
On-farm trials
ODA
Private sector non-core
Public sector non-core
SEARCA
SIDA
UNDP
UNEP
USAID
WARDA

5 Alphabetical Master List

Code	Keywords
M13	Acarina (mites)
H10	Acarina (mites)
K71	Acarina (mites)
L72	Acarina (mites)
U40	Aerial surveying
K10	Afforestation
F08	Agroforestry
E21	Agroindustrial complexes
F03	Agronomic characters
J11	Alcohols
P35	Aluminium
	Animal collections (see Genetic resources)
L10	Animal biotechnology
L10	Animal breeding
L02	Animal feeding
L70	Animal health
N10	Animal housing
L01	Animal husbandry
N20	Animal husbandry equipment
L51	Animal nutrition
L50	Animal physiology
P05	Animal power
Q70	Animal products
J13	Animal products
Q60	Antioxidants
J11	Antioxidants
L01	Apiculture
M12	Aquaculture
N20	Aquaculture equipment
F08	Arid zones
L10	Artificial insemination
F63	Asexual reproduction
L01	Aviculture
F04	Azolla
	Bacterial diseases (see Bacteriosis)
M14	Bacterioses (bacterial diseases)
H20	Bacterioses (bacterial diseases)
K72	Bacterioses (bacterial diseases)
L73	Bacterioses (bacterial diseases)
L20	Behaviour
F60	Biochemistry
L50	Biochemistry
M13	Biological control
M14	Biological control
H10	Biological control
H20	Biological control
H60	Biological control
K71	Biological control
K72	Biological control
L72	Biological control
L73	Biological control
P06	Biomass
M13	Bird control
H10	Bird control
K71	Bird control
L72	Bird control
M13	Birds
Q60	Bleaching
H20	Blights
M12	Brackish water
F02	Budding
F07	Burning
K10	Burning
Q60	Byproducts
Q70	Byproducts
J15	Byproducts
F04	Calcium
N01	Canals
L01	Carcass composition
P31	Cartography
M11	Catch composition
F08	Catch cropping
P33	Cations
F02	Cell culture
K50	Celluloses
L02	Chemical analysis
Q04	Chemical composition
Q54	Chemical composition
F60	Chemical composition
M13	Chemical control
M14	Chemical control
H10	Chemical control
H20	Chemical control
K71	Chemical control
K72	Chemical control
L72	Chemical control
L73	Chemical control
M14	Chemical resistance
H20	Chemical resistance
H60	Chemical resistance
K72	Chemical resistance
L73	Chemical resistance
F61	Chlorine
P40	Climatology

Code	Keywords
F02	Cloning
M11	Coastal fisheries
E21	Coffee industry
U40	Communication technology
E50	Community development
U10	Computer software
Q03	Contamination
M01	Continental shelves
J11	Controls
J15	Controls
Q04	Controls
Q70	Controls
M01	Coral Reefs
F04	Cover plants
F01	Crop management
F08	Cropping systems
F30	Crossbreeding
L10	Crossbreeding
F01	Crown
M12	Crustacean culture
F01	Cultivation
N20	Cultivation equipment
Q03	Dairy hygiene
E21	Dairy industry
N01	Dams
U10	Database
H50	Deficiency diseases
L74	Deficiency diseases
F01	Defoliation
K10	Deforestation
M11	Demersal fisheries
Q53	Deterioration
M14	Diagnosis
H20	Diagnosis
K72	Diagnosis
L73	Diagnosis
M15	Diet
E14	Diffusion of information
L51	Digestibility
L51	Digestive absorption
M14	Disease control
H20	Disease control
K72	Disease control
L73	Disease control
M14	Disease resistance
H20	Disease resistance
K71	Disease resistance
K72	Disease resistance
L10	Disease resistance
L73	Disease resistance
F30	Disease resistance
M14	Disease surveys
H20	Disease surveys
K72	Disease surveys
L73	Disease surveys

Code	Keywords
E20	Domestic gardens
F08	Domestic gardens
P11	Drainage
F60	Drought tolerance
F61	Dry matter content
J11	Drying
J13	Drying
J14	Drying
J15	Drying
F30	Earliness
M13	Ecology
H10	Ecology
H60	Ecology
K10	Ecology
K71	Ecology
L72	Ecology
E10	Econometrics
L01	Egg production
L10	Embryo transfer
P05	Energy balance
P01	Environmental policies
M14	Epidemiology
H20	Epidemiology
K72	Epidemiology
L73	Epidemiology
N20	Equipment
P36	Erosion
H60	Evaluation
E20	Extensive farming
F08	Fallow systems
E20	Farm inputs
E20	Farm management
E20	Farm surveys
E20	Farming systems
L02	Fattening
Q55	Feed additives
L51	Feed conversion efficiency
E21	Feed industry
L51	Feed intake
Q52	Feed processing
L02	Feeding equipment
L02	Feedlots
Q53	Feeds
L02	Feeds
Q02	Fermentation
P32	Ferralsols
L53	Fertility
P33	Field capacity
M12	Fish culture
M14	Fish diseases
M12	Fish feeding
M12	Fish ponds
J14	Fish products
M01	Fisheries
E20	Fishery management

Code	Keywords
M01	Fishery production
M01	Fishery resources (stock assessment)
N20	Fishing gear
M11	Fishing methods
N01	Fishways
Q04	Flavor
P10	Flooding
F62	Flowering
F61	Foliar application
E10	Food security
Q03	Food hygiene
E21	Food industry
Q02	Food preservation
E10	Food supply
Q02	Food technology
Q02	Foods
Q03	Foods
Q04	Foods
E20	Forest management
K10	Forest mensuration
K72	Forest pathology
K10	Forest plantations
J12	Forest products
K50	Forest products
K10	Forest surveys
N20	Forestry equipment
M11	Freshwater
M12	Freshwater
F63	Fruiting
K10	Fuelwood
H20	Fungal diseases
K72	Fungal diseases
F06	Furrow irrigation
F30	Gene banks
L10	Gene banks
L10	Gene pools
M15	Genetic disorders
H50	Genetic disorders
L74	Genetic disorders
F30	Genetic engineering
L10	Genetic engineering
L10	Genetic resources (animal collections)
F30	Genetic resources (plant collections)
F30	Genetics
F03	Germinability
F62	Germination
F30	Germplasm
L10	Germplasm
P01	Germplasm conservation (genetic resources)
	Germplasm evaluation (see Progeny testing)
J11	Grading
J12	Grading
F02	Grafting
L01	Grazing systems
F01	Greenhouse crops
N10	Greenhouses
P10	Groundwater
P10	Groundwater table
M12	Growth
L52	Growth
F62	Growth inhibitors
F62	Growth promotors
J11	Handling
J12	Handling
J13	Handling
J14	Handling
J15	Handling
F63	Haploidy
F01	Harvesting frequency
P30	Head suitability
M13	Helminths
L72	Helminths
H60	Herbicides
L74	Herbicides
F08	Highland
P34	Humus
F30	Hybridization
L10	Hybridization
P10	Hydrology
F01	Hydroponics
L74	Hypersensitivity
L73	Immunity
L70	Immunology
F30	Inbreeding
F01	Induced flowering
L10	Induced mutation
M12	Induced spawning
P33	Infiltration
H10	Injurious birds
K71	Injurious birds
L72	Injurious birds
H50	Injurious factors
L74	Injurious factors
M13	Injurious mammals
H10	Injurious mammals
K71	Injurious mammals
L72	Injurious mammals
M11	Inland fisheries
E14	Innovation adoption
P34	Inoculation methods
F04	Inorganic fertilizers
M13	Insect control
H10	Insect control
K71	Insect control
L72	Insect control
M13	Insecta (insects)
H10	Insecta (insects)
K71	Insecta (insects)
L72	Insecta (insects)
	Insects (see Insecta)

Code	Keywords
M13	Integrated control
M14	Integrated control
H10	Integrated control
H20	Integrated control
H60	Integrated control
K71	Integrated control
K72	Integrated control
L72	Integrated control
L73	Integrated control
E20	Intensive farming
F08	Intensive farming
K10	Intensive farming
L01	Intensive husbandry
F08	Intercropping
F61	Iron
P35	Iron
F06	Irrigation
N20	Irrigation equipment
H10	Isoptera (termites)
P33	Isotopes
U30	Laboratory diagnosis
U30	Laboratory equipment
M11	Lagoon fisheries
M11	Lake fisheries
E11	Land suitability
E11	Land use
Q60	Latex
F61	Leaves
M01	Limnology
L01	Livestock management
H20	Losses
K71	Losses
K72	Losses
L72	Losses
L73	Losses
M13	Losses
M14	Losses
H10	Losses
F08	Lowland
F04	Magnesium
L74	Malnutrition
M11	Mangroves
M11	Marine fisheries
M01	Marine resources
E70	Market intelligence
E70	Market prices
E70	Market research
E70	Marketing
E70	Marketing policies
J13	Meat
Q03	Meat hygiene
E21	Meat industry
L01	Meat production
F02	Meristem culture
F61	Metabolic disorders
H50	Metabolic disorders
L51	Metabolic disorders
L74	Metabolic disorders
M15	Metabolic disorders
F61	Metabolism
L51	Metabolism
L72	Metastigmata (ticks)
P40	Meteorology
U30	Methods
Q02	Microbiology
P40	Microclimate
J13	Milk
L01	Milk production
F61	Mineral metabolism
L51	Mineral metabolism
H10	Mite control
K71	Mite control
L72	Mite control
M13	Mite control
	Mites (see Acarina)
F08	Models
J11	Molasses
M12	Mollusc culture
F62	Morphogenesis
H60	Morphogenesis
J11	Moulds
F07	Mulches
F07	Mulching
F08	Multiple cropping
M12	Mussels
F30	Mutation
H20	Mycoplasma
K72	Mycoplasma
L73	Mycoplasma
M14	Mycoplasma
P34	Mycorrhizae
L73	Mycoses
M14	Mycoses
H10	Nematoda (nematodes)
K71	Nematoda (nematodes)
L72	Nematoda (nematodes)
H10	Nematode control
K71	Nematode control
	Nematodes (see Nematoda)
P10	New water resources
F04	Nitrogen
P34	Nitrogen fixation
E50	Nomadism
J15	Non food industries
J15	Non-food or non-feed agricultural products
L51	Nutritional disorders
L02	Nutritional requirements
Q54	Nutritive value
M01	Oceanology
L53	Oestrous cycle

Code	Keywords
E21	Oilseed industry
F04	Organic fertilizers
K10	Ornamental trees
M12	Oyster culture
Q80	Packaging
L73	Pathology
M11	Pelagic fisheries
H10	Pest control
K71	Pest control
M13	Pest control
L72	Pest control
F30	Pest resistance
H10	Pest resistance
K71	Pest resistance
L72	Pest resistance
M13	Pest resistance
H10	Pest survey
L72	Pest survey
M13	Pest survey
K71	Pest survey
H10	Pesticides
H50	Pesticides
K71	Pesticides
L72	Pesticides
L74	Pesticides
T01	Pesticides
H10	Pests
K71	Pests
L72	Pests
M13	Pests
P33	pH
F04	Phosphorus
F61	Photosynthesis
L72	Physical control
F62	Phytohormones
H50	Phytotoxicity
E10	Planning
F02	Plant propagation
F08	Plant animal relations
F30	Plant biotechnology
F30	Plant breeding
K10	Plant breeding
	Plant collections (see Genetic resources)
K72	Plant diseases
F01	Plant growth substances
F30	Plant introduction
F01	Plant nurseries
K10	Plant nurseries
F61	Plant nutrition
F60	Plant physiology
H60	Plant physiology
J11	Plant products
Q70	Plant products
K10	Plant propagation
F61	Plant soil relations

Code	Keywords
F60	Plant water relations
F01	Planting date
F07	Ploughing
P32	Podzols
L74	Poisoning
M15	Poisoning
E10	Policy
F63	Pollination
T01	Pollution
H10	Population changes
K71	Population changes
L72	Population changes
M13	Population changes
J11	Postharvest losses
J12	Postharvest losses
J13	Postharvest losses
J14	Postharvest losses
J15	Postharvest losses
F62	Postharvest physiology
F04	Potassium
F01	Potting
L01	Poultry meat
M12	Prawns (shrimps)
E70	Price policies
E70	Prices
K50	Processing
Q02	Processing
Q60	Processing
Q70	Processing
E16	Production controls
E16	Production costs
E16	Production data
E16	Production economics
E16	Production functions
K10	Progeny testing
L10	Progeny testing
F30	Progeny testing (germplasm evaluation)
L73	Protozoal infections
M14	Protozoal infections
K10	Provenance
F01	Pruning
K50	Pulp and paper industry
J11	Quality
J15	Quality
L02	Quality
Q04	Quality
Q70	Quality
F08	Rain fed farming
L02	Rations
F08	Ratooning
P36	Reclamation
K10	Regeneration
F08	Relay cropping
U40	Remote sensing
L53	Reproduction

Code	Keywords
M12	Reproduction
F04	Residual effects
Q03	Residues
Q53	Residues
T01	Residues
M11	Resource depletion
F60	Respiration
P34	Rhizobium
M11	River fisheries
E50	Role of women
F62	Rooting
F02	Rootstocks
F08	Rotational cropping
E21	Rubber industry
L51	Rumination
P36	Runoff
P35	Salinity
K50	Sawnwood
K10	Screening
M12	Seaweed culture
F03	Seed production
K10	Seed production
F03	Seed storage
F03	Seed treatment
F30	Selection
K10	Selection
L10	Selection
L10	Semen preservation
L01	Sericulture
L53	Sex hormones
F01	Shade
F08	Shifting cultivation
	Shrimps (see Prawns)
Q52	Silage making
N10	Silos
K10	Silviculture
E50	Social behaviour
E50	Social structure
F61	Sodium
F07	Soil cultivation
P33	Soil chemicophysical properties
P33	Soil chemistry
P32	Soil classification
F04	Soil conditioners
K10	Soil conservation
P36	Soil conservation
F08	Soil exhaustion
P35	Soil fertility
P33	Soil mechanics
P34	Soil microbiology
P32	Soil morphological features
T01	Soil pollution
F07	Soil sterilization
P31	Soil surveys
P33	Soil testing

Code	Keywords
U30	Soil analysis
P35	Soil toxicity
P30	Soil types
P33	Soil water
P33	Soil water balance
F01	Spacing
F06	Sprinkler irrigation
U10	Statistical analysis
	Stock assessment (see Fishery resources)
J11	Storage
J12	Storage
J13	Storage
J14	Storage
J15	Storage
N10	Storage structures
E20	Subsistence farming
F06	Subsurface irrigation
E21	Sugar industry
F61	Sulphur
E70	Supply balance
E50	Surveys
U40	Surveys
F61	Symbiosis
N01	Tanks
H60	Taxa (taxonomy)
K72	Taxa (taxonomy)
L73	Taxa (taxonomy)
M14	Taxa (taxonomy)
H10	Taxa (taxonomy)
H20	Taxa (taxonomy)
K71	Taxa (taxonomy)
L72	Taxa (taxonomy)
M13	Taxa (taxonomy)
	Taxonomy (see Taxa)
E21	Tea industry
E14	Technology transfer
H50	Temperature resistance
E11	Tenure
	Termites (see Isoptera)
F30	Testing
J11	Testing
J15	Testing
F01	Thinning
	Ticks (see Metastigmata)
F07	Tillage
K50	Timber trees
U30	Tissue analysis
H50	Toxicity
L74	Toxicity
Q03	Toxicity
Q53	Toxicity
F61	Trace elements
L01	Transhumance
F60	Transpiration
F01	Transplanting

Code	Keywords
K10	Tree nurseries
F06	Trickle/drip irrigation
F08	Upland crops
K10	Urban forestry
F04	Urea
H20	Vectors
K72	Vectors
F03	Viability
H20	Viruses
K72	Viruses
L73	Viruses
M14	Viruses
Q60	Viscosity
Q70	Waste disposal
F04	Wastes
P10	Water balance
P10	Water conservation
T01	Water pollution
M12	Water quality
P10	Water quality
N01	Water reservoirs
P10	Water storage
F61	Water uptake
P10	Watershed management
P10	Watersheds
H60	Weed control
K10	Weed control
H60	Weeding
H60	Weeds
N01	Wells
P01	Wildlife
K10	Windbreaks
P05	Wood energy
J12	Wood preservation
L01	Wool production
J11	Yeasts
F61	Zinc
L73	Zoonoses

6 Unique Keywords from a Specific Country NARS

In Chapter 1 it was stressed that the core list in the minithesaurus was not a closed list but that words could be added to it once the user has experience in its use. Words may be added to meet the specific or unique demands of a particular country or institute. As an example of this, we cite the experience from Sri Lanka where keywords were entered for 1,680 experiments in 19 research institutes. For most experiments, the core list proved adequate; however, two groups of additional, country-specific keywords were needed.

Group 1

Group 1 consists of 13 words, which are descriptors for a subject area that fell on the borderline of FAO's AGRIS/CARIS mandate. These words described post-harvest processing activities. Some of them involved industrial rather than agricultural research. All of the words have been placed in codes Q02 or Q60.

TEA/COFFEE (Q02)	RUBBER (Q60)
Carbonated tea	Carbon black
CTC	Composites and blends
Green tea	Compounding
Instant tea	Crepe rubber
Pulping	Dipping characteristics
	Factory development
	Vulcanisation
	Water soluble polymers

Group 2

Group 2 consists of 9 words that appeared useful as descriptors in Sri Lanka but were not included in AGROVOC. The list has been presented to FAO as "candidate descriptors" to be considered for future inclusion in AGROVOC.

CODE	KEYWORDS
F01	Rehabilitation
F03	Breeder seed, True seed
F08	Alley cropping, Soil Plant Animal Relations
H10	Termites
L72	Ticks
M12	Freshwater shrimps
P32	Alfisols

The brevity of these two lists indicates that with quite limited additions, the core list (many of whose keywords were not used at all in Sri Lanka) can form the basis for indexing a substantial NARS program with a wide range of research on a broad spectrum of commodities.