Information on Livestock Feed Resources and Integrated Farming Systems from the Electronic Journal Livestock Research for Rural Development

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Abstract
Livestock Research for Rural Development was the first scientific journal to be published only in electronic form, firstly on diskette and subsequently via ftp (file-transfer-protocol) and over the World-Wide-Web. The objective was to both publish information and make it available to scientists in developing countries, who had difficulty in the past due to the high costs of conventional publishing. It was started in 1989 and 20 issues (200 papers) have been distributed to over 600 persons in more that 40 countries. There are no restrictions on copying and onward-distribution so a far greater number of readers probably exist.

The focus has been on nutrition and management within systems appropriate to the tropics. There have been articles on most livestock species, including buffalo, goats, sheep, pigs, ducks and poultry, as well as cattle; and many tropical feeds, but particularly sugarcane and its by-products, legume trees, palms, water plants and other unconventional resources. These have included more detailed aspects such as chemical treatment, mineral supplementation and anti-nutritional factors. Several

papers have been included on systems methodology and the development process.

KEY WORDS: Electronic journal, livestock research, rural development, tropical feeds, unconventional feed resources

Background

Research on feed resources, and particularly journals where such information is published, are still monopolised by institutions in the industrial countries situated in temperate latitudes. There is a great need to expand research on feeds and feeding systems appropriate to tropical environments, and to promote means for dissemination of the information which can be a major stimulus for doing the research in the first place.

It is now well recognized that research and scientific publications in temperate developed countries have little relevance to the problems facing researchers and farmers in tropical developing countries. Furthermore, in most tropical developing countries laboratory analytical facilities are poor and expensive to develop and maintain. It is not surprising therefore that many of the techniques used to assess feeds in temperate countries are not applicable in the tropics.

The need is not for a set of "tropical feeding standards" but for information about the nature of tropical feed resources and how they are used by animals. Such information is being gathered by research workers in developing countries, many of whom are funded by the innovative support organization, IFS (the International Foundation for Science*). Indigenous knowledge, handed down from farmer to farmer, is also one of the most appropriate sources of such information. The problems are, firstly, to document this knowledge and secondly to disseminate it widely among potential users. Many of the researchers are turning to on-farm research where they can fulfill these objectives more effectively than in laboratories or research stations.

A first effort to provide a vehicle devoted to more appropriate tropical studies was achieved with the publication of the journal Tropical Animal Production from 1976 to 1982. Some years later, the electronic

journal Livestock Research for Rural Development was established in 1989 in the belief that conventional methods of publishing scientific information were too expensive, not appropriate and not sustainable in the context of developing countries. The concept is more fully documented in the original paper by Preston and Speedy (1989). There were two principal objectives:

1. To offer an alternative forum to "young" scientists in tropical developing countries for the exchange of scientific information;
2. To utilize electronic information technology to minimize costs of preparation and distribution.

Over the 8 years of its existence there have been minor changes in style in response to the opportunities presented by developments in computer technology and data exchange, especially the growth of the Internet and the Word-Wide-Web. But the basic principles have been maintained of offering a forum to scientists in tropical developing countries combining minimal cost, easy access and rapid publication of appropriate information.

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The focus has been on nutrition and management within systems appropriate to the tropics. For example, *the following articles reported studies on small farming systems*

Effect of supplements of balanced concentrates and cottonseed cake on milk production in Mauritian villages (Boodoo A A *et al.*, 1990)

Suggestions for intensive livestock-based smallholder systems in semi-arid areas of Tanzania (Ogle B, 1990)

Economia campesina y uso de los recursos naturales en zonas de colonizacion (Rojas H, 1990)

Role of women in homestead of small farm category in an area of Jessore, Bangladesh (Paul D C and Saadullah M, 1991)

Goat production in south-west region of Bangladesh (Paul D C, Haque M F and Alam M S, 1991)

Technology and competitiveness of small dairy farms in Costa Rica (Holmann F *et al.*, 1992)

Smallholder milk production, milk handling and utilization: A case study from the Nharira / Lancashire farming area, Zimbabwe (A N Mutukumira, D M J Dube, E G Mupunga and S B Feresu, 1996)

Papers relating to specific alternative feeds used for different types of livestock include:

Utilizacion de la cachaza de palma africana como fuente de energia en el levante, desarrollo y ceba de cerdos (Ocampo A *et al.*, 1990)

Azolla filiculoides as replacement for traditional protein supplements in diets for growing-fattening pigs (Becerra M *et al.*, 1990)

Utilizacion de jugo de cana y cachaza panelera en la alimentacion de cerdos (Sarria P, Solano A and Preston T R, 1990)

"A" molasses in diets for growing ducks (Men B X and Su V V, 1990)

Effects of substituting dolichos bean meal with soya bean meal on the performance of broiler chicken (Sarwatt S V *et al.*, 1991)

A comparison of sugar cane juice and maize as energy sources in diets for growing pigs (Speedy A W *et al.*, 1991)

Multi-Nutrient Blocks as supplement for milking cows fed forages of low nutritive value in South Vietnam (An B X *et al.*, 1991)

Utilizacion de follaje de Nacedero (Trichantera gigantea) en la alimentacion de cerdos de engorde (Sarria P *et al.*, 1991)

Molasses-urea block (MUB) and Acacia mangium as supplements for crossbred heifers fed poor quality forages (Bui An X *et al.*, 1992)

Effect of Leucaena leucocephala and Brassica napus on growth of pigs fed wheat bran diets (Muir J P *et al.*, 1992)

Ammoniated rice straw or untreated straw supplemented with a molasses-urea block for Sindhi x local cattle (Bui Van Chinh *et al.*, 1992)

Feeding ensiled poultry excreta to ruminant animals in Syria (Hadjipanayiotou M *et al.*, 1993)

Evaluation of Sapindus saponaria as a defaunating agent and its effects on different ruminal digestion parameters (Diaz *et al.*, 1993)

The use of sugar cane juice and molasses in the diet of growing pigs (Bui Huy Nhu Phuc, 1993)

Efecto de tres forrajes arboreos sobre el consumo voluntario y algunos par metros ruminales en ovejas africanas (Vargas J E, 1993)

Laboratory evaluation of ensiled olive cake, tomato pulp and poultry litter (Hadjipanayiotou M, 1994)

Study on the use of algae as a substitute for oil cake for growing calves (Chowdhury S A *et al.*, 1994)

Fattening pigs with the juice of the sugar palm tree (Borassus flabellifer) (Khieu Borin, T R Preston and B Ogle, 1995)

Duckweed - a potential high-protein feed resource for domestic animals and fish (Leng R A, Stambolie J H and Bell R, 1995)

Effect of protein supply in cassava root meal based diets on the performance of growing-finishing pigs (Liliana Ospina, T R Preston and

B Ogle, 1995)

Lombriz roja Californiana y Azolla-anabaena como sustituto de la proteina convencional en dietas para pollos de engorde (Lylian Rodriguez, Patricia Salazar y Maria Fernanda Arango, 1995)

The forage tree Erythrina fusca as a protein supplement for cattle and as a component of an agroforestry system (Piedad Cuellar, Lylian Rodriguez and T R Preston, 1996)

There is a very valuable paper on the different types of forage trees used in Tanzania:

Indigenous knowledge in utilization of local trees and shrubs for sustainable livestock production (Komwihangilo D M *et al.*, 1994)

Papers on research and development methodology have also been given:

Adding a learning to a blueprint approach - or what a small amount of flexible money can do. (Dolberg F, 1991)

Integration of livestock with agro-climatic zone-based land use planning (Gupta A, 1992)

Studies on the knowledge of rural women regarding local feed resources and feeding systems developed for livestock (Rangnekar S D, 1994)

Research, Extension and Training for Sustainable Farming Systems in the Tropics (T R Preston, 1995)

These are intended as examples of the type of studies reported. The full references are given at the end of this paper. A comprehensive list of the contents to date can be obtained by sending an e-mail message to the conference coordinators.

Availability

Livestock Research for Rural Development is now available in three formats:

- The MS-DOS format
- The Windows.hlp format
- The Adobe Acrobat.pdf format

The MS-DOS Format:

This is the normal DOS version that has been the standard format up to the present and which runs from the DOS Prompt by typing "J". It is appreciated that not all readers have access to 486 and higher processors and that this "stand alone" version of the journal continues to fulfill an important role. It will continue to be produced in the CIPAV office in Colombia and distributed to those contributers who wish to receive LRRD in the MS-DOS format. For those readers who have an InterNet connection, the MS-DOS version can be down-loaded by "FTP" from:

saman.unellez.edu.ve /pub/revistas/lrrd

The Windows .HLP Format:

This new Windows version is based on the Windows Help system (run with WINHELP.EXE). This works just like any Windows Help file and needs no special instructions. For those readers who have an InterNet connection, the new Windows Help version can be down-loaded by "FTP" from:

saman.unellez.edu.ve /pub/revistas/lrrd

The Acrobat .PDF Format:

This version of LRRD maintains the precise format of the original paper as prepared by the Word Professing Software (in this case WordPerfect 6.1 for Windows). The advantage is that it is much easier to prepare than the DOS or Windows Help versions. It has excellent search and "hypertext" capabilities that facilitate moving from contents to papers and back again etc. The disadvantage is that you need the specific software "Acrobat Reader" to be able run it. The Acrobat Reader can be downloaded "free" from the InterNet; also it (the reader) will occupy about 1Mb of space on your hard disk.

The "Acrobat" version is available for LRRD 7.2 onwards. The "Acrobat" version for 7.2 onwards as well as previous MS-DOS versions are available on the World Wide Web at:

http://ifs.plants.ox.ac.uk/lrrd/lrrd.htm

For readers resident in Vietnam these versions of the journal are available on the "VIETNET" List Server located at the University of Agriculture and Forestry in Ho Chi Mi City. Researchers in developing countries are encouraged to establish national networks such as VIETNET as a means to facilitate the distribution of LRRD from the editor to a server in each country to which each national researcher may have access for retrieving the last issues. Obviously, this server may also be used for providing others sources of information.

For the last 2 years, the publication of LRRD has been supported by FAO through its regional network on Feed Resources in Latin America and the Caribbean funded by France.

Submission of Papers

Papers are submitted on disk (either 3.5 or 5.25inch) in WordPerfect or similar format, to the regional language sub-editor. The paper can be in any of the official languages: Spanish, Portuguese, French and English, but the preferred format should be followed.

Authors are required to have their papers refereed, before submission, by at least two scientists who have both postgraduate qualifications and proven experience. A signed statement by the referees should accompany the submission. When authors have difficulty in locating appropriate referees, they should contact the nearest sub-editor who will provide names of suitable candidates.

Full details of how to submit and the Notes for Authors are given in the latest issue of the journal.

Further details can be obtained from

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