



FAO Technical papers

FAO ANIMAL PRODUCTION AND HEALTH PAPERS

- 1 Animal breeding selected articles from the *World Animal Review*, 1977 (C E F S)
- 2 Eradication of hog cholera and African swine fever, 1976 (E F S)
- 3 Insecticides and application equipment for tsetse control, 1977 (E F)
- 4 New feed resources, 1977 (E/F/S)
- 5 Bibliography of the criollo cattle of the Americas, 1977 (E/S)
- 6 Mediterranean cattle and sheep in crossbreeding,

- 7 1977 (E F) The environmental impact of tsetse control operations, 1977 (E F)
- 7 The environmental impact of tsetse control operations, Rev. 1980 (E F)
- 1
- 8 Declining breeds of Mediterranean sheep, 1978 (E F)
- 9 Slaughterhouse and slaughterlab design and construction, 1978 (E F S)
- 10 Treating straw for animal feeding, 1978 (C E F S)
- 11 Packaging, storage and distribution of processed milk, 1978 (E)
- 12 Ruminant nutrition selected articles from the *World Animal Review*, 1978(C E F S)
- 13 Buffalo reproduction and artificial insemination, 1979 (E*)
- 14 The African trypanosomiases, 1979 (E F)
- 15 Establishment of dairy training centres, 1979 (E)

- 16 Open yard housing for young cattle, 1981 (Ar E F S)
- 17 Prolific tropical sheep, 1980 (E F S)
- 18 Feed from animal wastes state of knowledge, 1980 (C E)
- 19 East Coast fever and related tick-borne diseases, 1980 (E)
- 20/1 Trypanotolerant livestock in West and Central Africa - Vol 1 General study, 1980 (E F)
- 20/2 Trypanotolerant livestock in West and Central Africa - Vol 2 Country studies, 1980 (E F)
- 20/3 Le bétail trypanotolérant en Afrique occidentale et centrale - Vol 3 Bilan d'une décennie, 1988 (F)
- 21 Guideline for dairy accounting, 1980 (E)
- 22 Recursos genéticos animales en América Latina, 1981 (S)
- 23 Disease control in semen and embryos, 1981 (C E F S)

- 24 Animal genetic resources - conservation and management, 1981 (CE)
- 25 Reproductive efficiency in cattle, 1982 (C E F S)
- 26 Camels and camel milk, 1982 (E)
- 27 Deer farming, 1982 (E)
- 28 Feed from animal wastes feeding manual, 1982 (C E)
- 29 Echinococcosis/hydatidosis surveillance, prevention and control FAO/ UNEP/WHO guidelines, 1982 (E)
- 30 Sheep and goat breeds of India, 1982 (E)
- 31 Hormones in animal production, 1982 (E)
- 32 Crop residues and agro-industrial by-products in animal feeding, 1982 (E/F)
- 33 Haemorrhagic septicaemia, 1982 (E F)
- 34 Breeding plans for ruminant livestock in the tropics, 1982 (E F S)
- 35 Off-tastes in raw and reconstituted milk, 1983 (Ar E F S)

- 36 Ticks and tick-borne diseases selected articles from the *World Animal Review*, 1983 (E F S)
- 37 African animal trypanosomiasis selected articles from the *World Animal Review*, 1983 (E F)
- 38 Diagnosis and vaccination for the control of brucellosis in the Near East, 1982 (Ar E)
- 39 Solar energy in small-scale milk collection and processing, 1983 (E F)
- 40 Intensive sheep production in the Near East, 1983 (Ar E)
- 41 Integrating crops and livestock in West Africa, 1983 (E F)
- 42 Animal energy in agriculture in Africa and Asia, 1984 (E/F S)
- 43 Olive by-products for animal feed, 1985 (Ar E F S)

44/1 Animal genetic resources conservation by

- management, data banks and training, 1984 (E)
- 44/2 Animal genetic resources cryogenic storage of germplasm and molecular engineering, 1984 (E)
- 45 Maintenance systems for the dairy plant, 1984 (E)
- 46 Livestock breeds of China, 1984 (E F S)
- 47 Réfrigération du lait à la ferme et organisation des transports, 1985 (F)
- 48 La fromagerie et les variétés de fromages du bassin méditerranéen, 1985 (F)
- 49 Manual for the slaughter of small ruminants in developing countries, 1985 (E)
- 50 Better utilization of crop residues and by-products in animal feeding research guidelines - 1 State of knowledge, 1985 (E)
- 50/2 Better utilization of crop residues and by-products in animal feeding research guidelines - 2 A practical manual for research workers, 1986 (E)
- 51 Dried salted meats charque and carne-de-sol. 1985

(E)

- 52 Small-scale sausage production, 1985 (E)
- 53 Slaughterhouse cleaning and sanitation, 1985 (E)
- 54 Small ruminants in the Near East - Vol I Selected papers presented for the Expert Consultation on Small Ruminant Research and Development in the Near East (Tunis, 1985), 1987 (E)
- 55 Small ruminants in the Near East - Vol II Selected articles from *World Animal Review* 1972-1986, 1987 (Ar E)
- 56 Sheep and goats in Pakistan, 1985 (E)
- 57 The Awassi sheep with special reference to the improved dairy type, 1985 (E)
- 58 Small ruminant production in the developing countries, 1986 (E)

59/1 Animal genetic resources data banks - 1 Computer

- systems study for regional data banks, 1986 (E)
- 59/2 Animal genetic resources data banks -2 Descriptor lists for cattle, buffalo, pigs, sheep and goats, 1986 (E F S)
- 59/3 Animal genetic resources data banks -3 Descriptor lists for poultry, 1986 (E F S)
- 60 Sheep and goats in Turkey, 1986 (E)
- 61 The Przewalski horse and restoration to its natural habitat in Mongolia, 1986 (E)
- 62 Milk and dairy products production and processing costs, 1988 (E F S)
- 63 Proceedings of the FAO expert consultation on the substitution of imported concentrate feeds in animal production systems in developing countries, 1987 (C E)
- 64 Poultry management and diseases in the Near East, 1987 (Ar)
- 65 Animal genetic resources of the USSR, 1989 (E)

- 66 Animal genetic resources - strategies for improved use and conservation, 1987 (E)
- 67/1 Trypanotolerant cattle and livestock development in West and Central Africa - Vol I, 1987 (E)
- 67/2 Trypanotolerant cattle and livestock development in West and Central Africa - Vol II, 1987 (E)
- 68 Crossbreeding *Bos indicus* and *Bos taurus* for milk production in the tropics, 1987 (E)
- 69 Village milk processing, 1988 (E F S)
- 70 Sheep and goat meat production in the humid tropics of West Africa, 1989 (E/F)
- 71 The development of village-based sheep production in West Africa, 1988 (Ar E F S) (Published as Training manual for extension workers, M/S5840E)
- 72 Sugarcane as feed, 1988 (E/S)
- 73 Standard design for small-scale modular

- 74 Slaughterhouses in the Near East - Vol III North Africa, 1988 (E)
Small ruminants in the Near East - Vol III North Africa, 1989 (E)
- 75 The eradication of ticks, 1989 (E/S)
- 76 *Ex situ* cryoconservation of genomes and genes of endangered cattle breeds by means of modern biotechnological methods, 1989 (E)
- 77 Training manual for embryo transfer in cattle, 1991 (E)
- 78 Milking, milk production hygiene and udder health, 1989 (E)
- 79 Manual of simple methods of meat preservation, 1990 (E)
- 80 Animal genetic resources - a global programme for sustainable development, 1990 (E)
- 81 Veterinary diagnostic bacteriology - a manual of laboratory procedures of selected diseases of livestock, 1990 (E F)
- 82 Reproduction in camels - a review, 1990 (E)

- 83 Training manual on artificial insemination in sheep and goats, 1991 (E F)
- 84 Training manual for embryo transfer in water buffaloes, 1991 (E)
- 85 The technology of traditional milk products in developing countries, 1990 (E)
- 86 Feeding dairy cows in the tropics, 1991 (E)
- 87 Manual for the production of anthrax and blackleg vaccines, 1991 (E F)
- 88 Small ruminant production and the small ruminant genetic resource in tropical Africa, 1991 (E)
- 89 Manual for the production of Marek's disease, Gumboro disease and inactivated Newcastle disease vaccines, 1991 (E F)
- 90 Application of biotechnology to nutrition of animals in developing countries, 1991 (E F)
- 91 Guidelines for slaughtering, meat cutting and further

- 92 Processing, 1991 (E F)
Manual on meat cold store operation and
management, 1991 (E S)
- 93 Utilization of renewable energy sources and energy-
saving technologies by small-scale milk plants and
collection centres, 1992 (E)
- 94 Proceedings of the FAO expert consultation on the
genetic aspects of trypanotolerance, 1992 (E)
- 95 Roots, tubers, plantains and bananas in animal
feeding, 1992 (E)
- 96 Distribution and impact of helminth diseases of
livestock in developing countries, 1992 (E)
- 97 Construction and operation of medium-sized abattoirs
in developing countries, 1992 (E)
- 98 Small-scale poultry processing, 1992 (Ar E)
- 99 *In situ* conservation of livestock and poultry, 1992 (E)
- 100 Programme for the control of African animal

- trypanosomiasis and related development, 1992 (E)
- 101 Genetic improvement of hair sheep in the tropics,
1992 (E)
- 102 Legume trees and other fodder trees as protein
sources for livestock, 1992 (E)
- 103 Improving sheep reproduction in the Near East, 1992
(Ar)
- 104 The management of global animal genetic resources,
1992 (E)
- 105 Sustainable livestock production in the mountain agro-
ecosystem of Nepal, 1992 (E)
- 106 Sustainable animal production from small farm
systems in South-East Asia, 1993 (E)
- 107 Strategies for Sustainable animal agriculture in
developing countries, 1993 (E F)
- 108 Evaluation of breeds and crosses of domestic animals,
1993 (E)
- 109 Bovine encephalomalacia 1993 (Ar E)

109 DUVOINE SPURGEON AND ENCEPTEAU, 1993 (EN E)

- 110 L'amélioration génétique des bovins en Afrique de l'Ouest, 1993 (F)
- 111 L'utilización sostenible de hembras F1 en la producción del ganado lechero tropical, 1993 (S)
- 112 Physiologie de la reproduction des bovins trypanotolérants, 1993 (F)
- 113 The technology of making cheese from camel milk (*Camelus dromedarius*), 2001 (E F)
- 114 Food losses due to non-infectious and production diseases in developing countries, 1993 (E)
- 115 Manuel de formation pratique pour la transplantation embryonnaire chez la brebis et la chèvre, 1993 (F S)
- 116 Quality control of veterinary vaccines in developing countries, 1993 (E)
- 117 L'hygiène dans l'industrie alimentaire, 1993 - Les produits et l'application de l'hygiène, 1993 (F)
- 118 Quality control testing of rinderpest cell culture

~~Quality control testing of food products containing~~

- vaccine, 1994 (E)
- 119 Manual on meat inspection for developing countries, 1994 (E)
- 120 Manual para la instalación del pequeño matadero modular de la FAO, 1994 (S)
- 121 A systematic approach to tsetse and trypanosomiasis control, 1994 (E/F)
- 122 El capibara (*Hydrochoerus hydrochaeris*) - Estado actual de su producción, 1994 (S)
- 123 Edible by-products of slaughter animals, 1995 (E S)
- 124 L'approvisionnement des villes africaines en lait et produits laitiers, 1995 (F)
- 125 Veterinary education, 1995 (E)
- 126 Tropical animal feeding - A manual for research workers, 1995 (E)
- 127 World livestock production systems - Current status,

- 128 Issues and trends, 1996 (E)
Quality control testing of contagious bovine pleuropneumonia live attenuated vaccine - Standard operating procedures, 1996 (E F)
- 129 The world without rinderpest, 1996 (E)
- 130 Manual de prácticas de manejo de alpacas y llamas, 1996 (S)
- 131 Les perspectives de développement de la filière lait de chèvre dans le bassin méditerranéen, 1996 (F)
- 132 Feeding pigs in the tropics, 1997 (E)
- 133 Prevention and control of transboundary animal diseases, 1997 (E)
- 134 Tratamiento y utilización de residuos de origen animal, pesquero y alimenticio en la alimentación animal, 1997 (S)
- 135 Roughage utilization in warm climates, 1997 (E F)
- 136 Proceedings of the first Internet Conference on Salivarian Trypanosomes, 1997 (E)

- 137 Developing national emergency prevention systems for transboundary animal diseases, 1997 (E)
- 138 Producción de cuyes (*Cavia porcellus*), 1997 (S)
- 139 Tree foliage in ruminant nutrition, 1997 (E)
- 140/1 Análisis de sistemas de producción animal - Tomo 1: Las bases conceptuales, 1997 (S)
- 140/2 Análisis de sistemas de producción animal - Tomo 2: Las herramientas básicas, 1997 (S)
- 141 Biological control of gastro-intestinal nematodes of ruminants using predacious fungi, 1998 (E)
- 142 Village chicken production systems in rural Africa - Household food security and gender issues, 1998 (E)
- 142 Village chicken production systems in rural Africa - Household food security and gender issues, 1998 (E)
- 143 Agroforestería para la producción animal en América Latina, 1999 (S)
- 144 Ostrich production systems, 1999 (E)

- 145 New technologies in the fight against transboundary animal diseases, 1999 (E)
- 146 El burro como animal de trabajo - Manual de capacitación, 2000 (S)
- 147 Mulberry for animal production, 2002 (E)
- 148 Los cerdos locales en los sistemas tradicionales de producción, 2001 (S)
- 149 Animal production based on crop residues - Chinese experiences, 2001 (C)
- 150 Pastoralism in the new millenium, 2001 (E)
- 151 Livestock keeping in urban areas - A review of traditional technologies based on literature and field experiences, 2001 (E)
- 152 Mixed crop-livestock farming - A review of traditional technologies based on literature and field experiences, 2001 (E)

153 Improved animal health for poverty reduction and sustainable livelihoods, 2002 (E)

Availability: April 2002

Ar - Arabic	Multil - Multilingual
C - Chinese	* Out of print
E - English	** In preparation
F - French	
P - Portuguese	
S - Spanish	

The FAO Technical Papers are available through the authorized FAO Sales Agents or directly from Sales and Marketing Group, FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy.



Back cover

This publication contains the articles distributed to the subscribers to the first electronic conference on mulberry for animal production, held between May and August 2000. The conference was organized by the FAO Animal Production and Health Division in response to the growing interest in the cultivation and use of mulberry to feed various domestic animals. The contributions covered a variety of topics including germplasm resources in various countries, agronomic aspects, chemical composition, nutritive value and animal performance.

04/11/2011

FAO Technical papers

