2.8 FACILITIES

2.8.1 Experimental Farm

Experimental Farm was first established in the north part of Kyoto Campus in 1924, and its head office was then moved to Takatsuki City, Osaka in 1928. It consists of four groups: Paddy Field, Pomology, Vegetative Crop Science and Kosobe Conservatory in Takatsuki Farmstead.

The Experimental Farm provides the Subject on Agricultural Technology and Farm Practice, and some lectures, seminar and experimental works to educate undergraduate and graduate students.

The Laboratory of Plant Production Control was also established in the Experimental Farm in 1998. Its teaching staffs and special students are making research works on Plant Production Control Science.

The Experimental Farm is also used for an experimental field to make cooperative research works with outside researchers, and for a plant resorce conservation field.

Kyoto Farmstead being another group of Experimental Farm in the north part of Kyoto Campus, locates in Kitashirakawa, Sakyoku, Kyoto City. It is mainly used for an experimental field of Division of Agronomy and Horticultural Science.

Staff Director (Concurrent service), Professor : Yamada, Toshiaki, Dr. Agric. Sci. (-2008.3)

Director Professor : Yamada, Toshiaki, Dr. Agric. Sci. (-2008.3)

Associate Professor: Kitajima, Akira, Dr.Agric.Sci.
Assistant Professor: Kataoka, Keiko, Dr.Agric.Sci.
Assistant Professor: Teraishi, Masayoshi, Dr.Agric.Sci.

Assistant Professor: Fudano, Takashi, M.Agric.Sci.
Assistant Professor: Habu, Tsuyoshi, Dr. Agric.Sci.
Assistant Professor: Katsura, Keisuke, Dr. Agric.Sci.

Technical Staffs : Konishi, Tsuyoshi

Sakakibara, Toshio

Kagata, Hisashi Nonaka, Katutoshi

Noriana, Natutosiii

Okamoto, Norishige

Nishikawa, Kouji

Kusumi, Kouji

Wada, Ryouichi

Minami, Hirohisa

Wkahara, Hiroyoshi

Nara, Noboru

Kishida, Fumio

Matsuda, Masaru

Yasuda, Mika

Morikita, Miki (-2007.5)

Kurosawa, Tkashi (2007.10-)

Administrative Staffs: Nishi, Tokio (2007.4-2007.6)

Nomura Akira (2007.7-)

Fujii, Sumie (-2008.3)

Kakita, Akihiko

Part-time Staff Umemoto, Chiyomi

Students and research fellows

Doctor's Program : (2)
Master's Program : (3)
Undergraduate : (1)

Please refer to Laboratory of Plant Production Control in Division of Agronomy and Horticultural Science for details.

2.8.2 Livestock Farm

This farm is located in Kyotanba Town, Funai District, Kyoto Prefecture about 55km northwest of Faculty of Kyoto University. About 160 beef cattle are raised, including reproductive cow, calf and fattening cattle. Main activities of this farm are, a) to do experiments concerning practical and basic research for the improvement of animal (especially beef) production techniques and systems, and b) to provide exercise course concerning farm animal and grassland management and beef production for undergraduate students.

Staff Professor (Concurrent service): Kume, Shinichi, Dr. Agric. Sci.

Associate Professor : Kitagawa, Masayuki, Dr. Agric. Sci.

Technical Officials : Matsuyama, Takatsugu

Technical Officials : Murakami, Hiroaki
Technical Officials : Matsuhira, Noriyasu
Technical Officials : Nagase, Hiroshi
Technical Officials : Yoshioka, Hidetsugu
Technical Officials : Kitamura Shouko

Research fellow: (1) JSPS Postdoctoral fellow for foreign researchers: (1)

A. Research Activities (2007.4-2008.3)

A-1. Main subjects

a) Studies on improvement of feeding for beef cattle and herbage production in the pasture

For improvement of breeding efficiency of cows, the relationship between conception and serum concentration of vitamin A metabolites (retinol and β -carotene) on the day of artificial insemination was examined, and pregnancies were diagnosed by ultrasonography 40 days after artificial insemination. The Solanum carolinense is recently spreading in the pasture of Italian ryegrass, therefore the effect of seeding Sudangrass in the pasture was continuously examined on

growth of the weed.

b) Fundamental studies on functional development in beef cattle and studies on soil characteristics in the pasture

In corporation with related laboratories, bioavailability of vitamin C drugs (laboratory of nutritional science), material cycle (laboratory of animal husbandry resources), mineral metabolism in cows (laboratory of animal physiology and functional anatomy) behavior analysis of grazing cattle (graduate school of informatics), search for neuroprotective substances in cow placenta (graduate school of pharmaceutical sciences) and nitrate-nitrogen budget in the pasture (laboratory of Soil Science) are examined. Feeding several vitamin C drugs in fattening cattle were in particular examined. By the use of appropriate feeding method and sampling time, it was cleared that dose responses of one kind of vitamin C drug were observed in plasma VC concentration and urinary VC/CR ratio (CR:creatine).

c) Studies on evaluation of effective culture of Euglena utilizing methane-fermentation digester and conversion of dried those into feed

In the methane-fermentation establishment utilizing livestock manure, treatment for large quantity of methane-fermentation digester is urgent subject. In corporation with another five research institutions, effective culture technique of Euglena utilizing methane-fermentation digester was established ,Euglena drying method clarified and safety and functionality about dried those were estimated as feed.

A-2. Publications and presentations

a) Publications

Books.

Moriya K. and Kitagawa M.: Chapter 7 The latest though traditional animal production system, New challenge to animal production (edited by Imai), pp.217-244, Kyoto University Press, Kyoto, 2007 (in Japanese)

Original papers

Padilla, T Matsui, S Ikeda, M Kitagawa, H Yano: The effect of vitamin C supplementation on plasma concentration and urinary excretion of vitamin C in cattle. J.Anim.Sci., 85: 3367-3370, 2007

Reviews

- Kitagawa M.: Feeding and Availability of vitamin C for fattening cattle. Yougyu no Tomo, 378:32-34, 2007
- Kitagawa M.: Application of vitamin C for fattening cattle ① ② ③. The Beef Cattle Magazine, 20(9:66-69/10:58-61 2007), 21(2:50-54 2008)

Reports

- Kitamura, S., Matsuyama, T., Murakami, H., Matsuhira, N., Nagase, H. and Yoshioka, H.: Research study on the body weight change of cow before and after parturition in livestock farm. Reports of 10th study meeting of technical officials: 45-47. Graduate School of Agriculture, Kyoto University. 2008 (in Japanese)
- Yoshioka, H., Matsuyama, T., Murakami, H., Matsuhira, N., Nagase, H. and Kitamura, S.: Research study on the effect of pedigree on performance test in livestock farm. Reports of 10th study meeting of technical officials: 63-67. Graduate School of Agriculture, Kyoto University. 2008 (in Japanese)

b) Conference and seminar papers presented

The 56th Meeting of Kansai Society of Animal Science: 2 presentations

The 108th Meeting of Japanese Society of Animal Science: 2 presentations

The 45th Annual Meeting of Beef Cattle Science: 2 presentations

The Sendai Meeting of Grassland Science: 1 presentation

The 109th Meeting of Japanese Society of Animal Science: 3 presentations

A-3. Off-campus activities

Membership in academic societies (roles)

Kitagawa, M.: Japanese Society of Livestock Management (Councilor), Society of Beef Cattle Science (Councilor), Animal Science Systems Society (Councilor), The Japan society for Meat Production (representative)

Research grants

Monbukagakusho Research Grant: Grant-in-Aid for Scientific Research (B) Studies on development and evaluation of environmentally sound animal production systems aiming to crop and animal integration (Head: Hirooka, Sharer: Kitagawa),

JSPS Postdoctoral Fellowship for foreign researchers Studies on vitamin C nutrition in various conditions of beef cattle(Head: Kitagawa)

Research Project for utilizing advanced technologies in agriculture, forestry and fisheries: Evaluation of effective culture of Euglena utilizing methane-fermentation digester and conversion of dried those into feed (Head: Kitagawa)

B. Educational Activities (2007.4-2008.3)

B-1. On-campus teaching

a) Course given

Undergraduate level: Livestock Production Techniques and Practice I (Kitagawa)

Livestock Production Techniques and Practice II (Kitagawa et al)

Fundamentals for the Experiments for Bioresource Science (Kitagawa et al)

Graduate level: Feeding and Management for Beef Cattle (Kitagawa)

B-2. Off-campus teaching, etc

Part-time lecturer

Kitagawa, M.: The University of the Air (Special Lecture)

Kitagawa, M.: Kyoto University of Education (Cultivation and Feeding Practice II)