DEPARTMENTS OF INSTRUCTION

Agricultural Bacteriology
ASSOCIATE PROFESSOR W. H. WRIGHT

Farm Bacteriology. This course familiarizes the student with the nature of bacteria, how they grow and reproduce and the methods of artificial cultivation in the laboratory, the relation of bacteria to the soil, the changes in the composition of the soil caused by nitrification, nitrogen fixation and inoculation of legumes. The relation of bacteria to farm water supply and sewage disposal is discussed.

The relation of bacteria to milk and its products is considered from a point of view of practical milk production and the quality of butter and cheese. The preservation of other foods is also discussed. The transmissible diseases which are of the greatest importance to the livestock industry of the state are studied from the standpoint of prevention and control.

Agricultural Chemistry
ASSOCIATE PROFESSOR T. OTTINGHAM

Farm Chemistry. This course is designed to show the exchange of the elements of soil fertility in farming. The subjects discussed are: processes of plant growth in relation to the soil and air; digestion and use of food by the animal; nature and use of commercial fertilizers and of fungicides and insecticides.

Special attention is given to the relative conservation of fertility in various types of farming with emphasis upon the handling of manure. Demonstrations of selected chemical constituents and processes are given with the aim of interpreting Agricultural Chemistry in the language of farm practice.

Agricultural Economics

PROFESSORS KOLB, MCNALL; INSTRUCTORS ALLIN, SCHAAI, WILEDEN; ASSISTANT SCHULTS

The studies given are designed to give the student an appreciation of the entire business aspects of farming by showing the general economic questions facing agriculture, the value of keeping accurate accounts and managing farms for economical production, the importance of effective merchandising methods applied to marketing agricultural products, and the consummation of all this effort in possible better rural standards of home and community life.

A. Farm Bookkeeping. Elementary principles of economics and the elements of bookkeeping as applied to the farm. Methods of taking farm inventories and the keeping of cash accounts, and accounts with livestock, farm crops, etc. Mr. Schults.
B. **Farm Economics.** This course will consist of lectures and discussions which deal with subjects with which the farmers are in constant contact; how prices are made, the farmers' purchasing power, farm labor, farm credit, farm tenancy and leases. Mr. Allin.

C. **Marketing.** This course includes a study of necessary marketing services, agencies, and methods; and analysis of merchandising principles applied to agriculture, a discussion of co-operative marketing and the middleman system, as well as a consideration of market prices, marketing weaknesses, and marketing improvements. The relationship between economical production, quality products, efficient and effective marketing, and better rural social life is pointed out. Mr. Schaars.

D. **Rural Community Organization.** Social and economic relations of farm home and community are studied together with numerous methods for their improvement. Various local social institutions such as school, club, store, church, and library are given special attention. Particular emphasis is also given to types of farmers’ clubs and community organizations, with suggestions and plans for making them a success. Mr. Wileden and Mr. suggestions and plans for making them a success. Mr. Kolb and assistant.

E. **Farm Management.** To show the student how the various farm operations may be organized and correlated so the entire farm may be handled successfully and economically. The location and size of the farm and its adaptability to the raising of crops and livestock, the lay-out of the farm, the capital and equipment necessary for the various types of farming and the problem of farm help. Mr. McNall.

**Agricultural Engineering**

**Professors E. R. Jones; Associate Professors Duffee, Mr. Jefferson**

The Department of Agricultural Engineering has unusual facilities for giving practical instruction to students. Thousands of dollars' worth of tractors, engines, machinery, tools and farm-building equipment are loaned to the department by manufacturers each year for the use of students in the lecture room and laboratory.

Attention is called to the special grouping of courses on page 22 to permit intensive training in agricultural engineering. Special students registered in advance by the department may enter as regular Short Course students but take all their work in Agricultural Engineering or allied subjects. For information write to the Agricultural Engineering department.

A. **Gas Engines.** Demonstrational lectures supplemented by laboratory work. Adjustments and operation of gas engines. Fuel consumption tests. Trouble finding and remedy. Mr. Duffee and assistant.

B. **Farm Machinery.** Construction and operation of the different types of farm implements such as plows, binders, corn planters, cultivators, etc. Mr. Duffee and assistant.
C. **Land Drainage.** Exercises both in and out-of-doors with the surveyor's level, plane-table, drain tile and tiling tools. Planning drainage systems for topographic maps of typical areas and from sketches of particular areas furnished by students. Superintending the installation of farm drainage systems. One or two hours a day. Mr. Jones.

D. **Farm Tractors.** Engine and tractor troubles. Practice with different types of tractors. Course A, Gas Engines, must precede or accompany this course. Mr. Duffee.

E. **Farm Mechanics and Conveniences.** A study of the conveniences of the farm home such as lighting, heating, water supply (and plumbing). Laboratory work will also be given such as soldering, rope tying and splicing, belt lacing, babbiting and concrete construction. Mr. Jones.

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**Practice With Different Tractors**

F. **Farm Buildings.** Lectures and laboratory work in the planning and arrangement of farm buildings. The lectures include a discussion of silos, concrete construction, ventilating systems. Mr. Jefferson.

G. **Advanced Gas Engines.** A more intensive study of gas engine principles and troubles than is given in the first year. Additional problems are considered. Mr. Duffee.

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**Agricultural Journalism**

**ASSOCIATE PROFESSOR SUMNER**

**Farm Advertising.** Salesmanship is needed on the progressive farm. The farm name, the farm letterhead, the classified advertisement, display and sales advertisements, sales letters, catalogs, and auction posters are some of the mediums which will be studied. Mr. Sumner.
Agronomy

Professors Moore, Graber; Associate Professors Leith, Wright; Assistant Professors Stone, Holden; Assistant Zerbel.

The courses in Agronomy are intended to give the students a knowledge of the elements involved in the successful production of farm crops. The selection of varieties, cultural methods, management, rotations, improvement of all kinds of farm crops, and the control of weeds will be fully discussed.

A. Farm Crops. A study of varieties of field crops for Wisconsin and methods of handling them through all phases of culture and harvest. Mr. Wright, Mr. Leith.

B. Forage Crops. A discussion of the best methods and practices in handling and improving legumes and other forage crops. Mr. Moore, Mr. Graber.

C. Pure-bred Seed Production. A study of types, judging, breeding, improving, and marketing of Wisconsin grains and corn. Mr. Moore, Mr. Leith.

D. Seed and Weed Control. Lecture and laboratory work, including a study of the identification and methods of eradication of weeds, the identification of crop and weed seeds, together with the relation of clean seeds and clean fields to best practices in crop culture. Mr. Stone, Mr. Holden.
Animal Husbandry

Professors Humphrey, Fuller; Assistant Professors Kleinheinz and Fargo; Instructor Rupel; Assistants O. J. Delwiche, Werner, Marshall, Harris, and Cramer.

The courses in animal husbandry given include livestock breeding, judging, pedigrees, feeding, care and management. The extensive herds and flocks of the University farm are supplemented by prize winning animals loaned by breeders of the state.

A. Elementary Stock Judging. Score card practice and textbook work in the study of market classes and breeds of livestock. Mr. Humphrey, Mr. Rupel.

B. Feeds and Feeding. The study of feeding stuffs, principles of feeding and rations. Mr. Fargo.

C. Advanced Feeds and Feeding. A continuation of the study of feeds and feeding begun the first year with special application to practical problems. Mr. Rupel.

D. Dairy Cattle Judging and Management. Mr. Humphrey and Mr. Werner.

E. Beef Cattle and Sheep Judging and Management. Mr. Fuller, Mr. Kleinheinz.

F. Advanced Dairy Cattle Judging and Management. A continuation of course D. Mr. Humphrey, Mr. Werner.

G. Swine Judging and Management. Mr. Fargo.

H. Cow-testing Associations. Outlines problems of the association officers and the cow-tester. A complete set of records will be computed by each student and an attempt make to fit the student for cow-testing associa-
tion work. The course is equally important to the man who is operating a farm and developing a herd. Advanced Registry standards and records will also be studied. Mr. Harris, Mr. Cramer.

I. Horse Judging and Management. Mr. Fuller.

Farm Dairying

Professor Jackson; Instructor Thomsen.

In farm dairying, students receive instruction in the general principles which are involved in the production, testing, and handling of milk and cream at farms for city markets, creameries, condenseries, and cheese factories, and the making of dairy products on the farm and in the factory.

A. Farm Dairying. The dairy laboratory is equipped with the most approved apparatus for the testing of milk, the separation of cream and the manufacture of butter and other dairy products. Practical instruction in all branches of farm dairying, including the testing of milk and cream, the detection of the more common adulterants of these products and the operation of hand separators, churns, butter workers, milk coolers, and other appliances of the dairy.

B. Advanced Farm Dairying. A supplementary course to Dairy A. This course is designed to train men in the care of dairy equipment, the commercial handling of dairy products on the farm and in the factory, paying creamery and cheese factory dividends, secretarial duties in co-operative dairy plants, discussion of dairy laws, and other advanced dairy operations. Mr. Thomsen.

Economic Entomology

Professor Wilson; Assistant Professor Fluke; Instructor Marvin.

The importance of insect control on the farm is recognized by the farmer, but his opportunities for study are limited, and the occasional information which he picks up is usually gone from his mind before he has an opportunity to apply it.

A. Farm Insects and Control. A study of the more important insect pests of farm, garden and orchard crops to admit of ready recognition and treatment. Principles of insect control will be studied and applied to individual insects according to the best known methods. Mr. Fluke.

B. Beekeeping. Practical beekeeping for those who desire to study the elementary principles of the subject. Each student will have an opportunity to familiarize himself with up-to-date methods and equipment for the handling of bees, the production of comb and extracted honey, grading and marketing of honey, bee diseases, their recognition and treatment. Mr. Marvin.
Horticulture

PROFESSORS MOORE, MILWARD; ASSOCIATE PROFESSOR AUST; ASSISTANT PROFESSOR BRANN; INSTRUCTOR FINCH.

The horticultural work in the Short Course is designed to give the student a knowledge of the principles and practices underlying the successful culture of horticultural plants.


B. Horticultural Practice. An elective course designed for those desiring more detailed work in horticulture than is given in Horticulture A. Demonstration lectures and laboratory exercises on spraying, pruning, fruit identification and judging, tree planting hotbed construction, propagation of fruit plants and small fruit culture. Mr. Moore.


D. Home Grounds Improvement. Pleasing home grounds increase the value of the farm and give pleasure to the occupants of the home. This course is designed to teach the student how to plan and plant the home grounds must effectively. It also attempts to familiarize him with the plants best adapted for the ornamentation of the grounds surrounding the home. Mr. Aust.
Library

ASSISTANT PROFESSOR HEAN.

Library Practice. To teach students to use books, papers, and bulletins as tools. Lectures on classification and other library methods and on the literature of agriculture, including books and serial publications. The lectures will be supplemented by practical work in the library. Attention will be given to methods of keeping files and records of valuable articles read, how to get government and state bulletins and reports, how these may be filed so as to be ready and valuable reference for the busy farmer. Mr. Hcan.

Studying in the Library

Parliamentary Practice

ASSOCIATE PROFESSOR BEWICK.

Parliamentary Practice. A working knowledge of the rudiments of parliamentary practice is of inestimable value to every young man. This course gives practice in the organization and handling of public meetings, farmers’ clubs, public speaking and debating.

First Year—Principlee of parliamentary practice and debating. Mr. Be- wick.

Second Year—Review parliamentary practice. Organization of farmers’ clubs, public speaking. Time to be arranged. Mr. Bewick.
Physical Education

Professor Lowman and Assistants.

All Short Course students will be given a thorough physical and medical examination, and will be required to take two one-hour periods a week of development exercises, athletics and recreational games under capable direction. An opportunity for voluntary exercise and for the organization of basketball and other teams and the holding of athletic contests between classes will be given. These activities are carried on in the Stock Pavilion which has been equipped with facilities for this purpose including gymnastics and athletic apparatus, lockers and shower baths. The course is closed by an indoor track meet, with track contests between teams representing the first and second year classes.

Plant Pathology

Professor Vaughan.

The limiting of the yield of all farm crops by disease is a present day problem of the farmer. Their control becomes more important as our lands are farmed more intensively.

Plant Diseases. The symptoms of the common and more important plant diseases of Wisconsin crops are studied that one may recognize them at sight. Attention is given to the diseases of field crops, grains, fruits potatoes, and of other horticultural crops. Control measures and their application are emphasized.

Individual laboratory work aims to give first hand acquaintance with the symptoms of the diseased plants and the characters of the parasitic fungi and bacteria causing the diseases, including methods of over-wintering, spread and control. Mr. Vaughan.

Poultry Husbandry

Professor Halpin; Instructor C. E. Holmes; Assistant O. N. Johnson.

The Poultry Department is equipped with poultry buildings, colony houses, a complete line of incubators, brooders, and other poultry apparatus, such as cramping machines and bone cutters. In addition, some twenty varieties of chickens, two of geese, and three of ducks, furnish ample material for poultry judging. These will be used to help the student to become familiar with general poultry raising. Several years of careful trapnesting and pedigree hatching have developed strains of heavy laying chickens that will be used. An extensive file of poultry journals and books is to be found in the Agricultural Library.
A. **Poultry Raising.** A general survey lecture course in which the problems of the various phases of poultry raising are studied. Brief consideration is given to feeding hens for winter egg production; culling and selection for egg production; artificial incubation and brooding and market eggs and poultry. Mr. Halpin and Mr. Holmes.

B. **Poultry Judging.** Practise in the identification of the more common breeds and varieties. Judging poultry for standard breed qualities; culling and judging hens for egg production. Mr. Halpin and Mr. Holmes.

C. **Production and Marketing of Poultry Products.** Feeding, housing, and managing the flock for egg production; Methods of sanitation. Candling, grading and packing market eggs; producing quality in market poultry; Systems of marketing poultry products. Mr. Halpin and Mr. Holmes.

D. **Incubation and Brooding.** Laboratory work consisting in the actual operation of incubators. A study of chick development and the factors that influence fertility and hatchability of eggs. Artificial brooding and the feeding, care and management of baby chicks. Mr. Holmes and Mr. Johnson.

**Workshop Departments**

**Assistant Professor Dorrans:** (Superintendent of Shops)

**Instructors Schumann, Peters, Tice.**

A. **Elementary Carpentry.** Instruction given in the use of wood working tools, to sharpen chisels, saws and planes and keep them in order. A choice is allowed of several problems that will be of use around the house or farm. The list includes a mitre box, saw horse, feed trough, stool, step ladder, tool tray, hammer handle, or singletree. Several types of joints are made, and elementary instruction in the use of the steel square is given. Mr. Tice.

B. **Elementary Forging.** Instruction in the essential operations of forging, such as drawing out, upsetting, pointing, bending and welding is given. Problems such as bolts, chain links, rings, clevises of various forms, cold chisels, metal and stone drills are given. Instruction in hardening, tempering, drilling, riveting, soldering and brazing. Mr. Schuman and Mr. Peters.

C. **Advanced Carpentry.** More advanced work to suit the needs of the individual student. The construction of stairs, window and door frames, the making of models of houses, barns, and portable pens, and framing for concrete construction. Merits of painting, staining and varnishing studied. Mr. Tice.

D. **Advanced Forge Work.** A continuation of first year work including more advanced practice. Mr. Schumann and Mr. Peters.
Soils

Associate Professors Graul, Richards.

The following courses in soils include lectures supplemented by laboratory exercises which demonstrate the principles taught in the lectures.

A. Soil Fertility. The soil and its relation to crop production is considered. The subjects studied are the soil, its origin and relation to plants and animals, conditions affecting plant growth; plant-food elements and crop needs; importance of water and tilth in agriculture; land drainage; liming; relation of manure and commercial fertilizers to crop yields and soil improvement. Mr. Graul.

Soil Testing Laboratory

B. Soil Management. Practical lectures on the management of soils of all common types. Soil improvement practices will be studied in their relation to the profitable production of crops. Emphasis will be placed on planning soil improvement and maintenance programs on farms of various types. Mr. Richards.

Veterinary Science

Professor A. S. Alexander.

A. The Animal in Health. The principles of anatomy and physiology are taught, to acquaint students with the normal structure and functions of the animal body. Mr. Alexander.
B. The Animal in Disease. The causes, symptoms, and methods of preventing the common diseases of farm animals are explained, to enable students to recognize diseases and unsoundness and give first aid treatment. Mr. Alexander.
SHORT COURSE IN AGRICULTURE

Application for Admission

To the Director of the Short Course,
University of Wisconsin, Madison.

I hereby apply for admission to the Short Course in Agriculture for the term beginning November 12, 1928. I have had.............................................years experience on a farm.

Should I change my address before November 12 or should any thing occur which will prevent my attendance, I will at once notify you so that my place can be filled by some other applicant.

Name.............................................................................. Age..............

Post Office............................................................. State......................

Rural Route No........................................ or Street and No......................

Home County...............................................................................

Dated...............................................................................