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OREGON AGRICULTURAL EXPERIMENT STATION.

ANNOUNCEMENT OF

SHORT COURSE

IN

HORTICULTURE AND DAIRYING,

WITH

LECTURES DELIVERED IN 1897.

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MOSES CRAIG, } Committee on Short Course.  
H. T. FRENCH, }

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## FARMERS' SHORT COURSE.

To give the many Oregon farmers, who, are unable to leave home to take a four-year course in the Agricultural College, a share in the advantages of a higher education the Experiment Station has for years conducted farmers' institutes in various parts of the state.

The success of these encouraged the Station, four years ago, to establish at the Agricultural College what is known as a Farmers' Short Course. This covers a field which on account of limited time and lack of apparatus cannot be attempted in a farmers' institute.

The course consists of a series of popular lectures along lines suited to aid horticulturists and dairymen in developing the great natural resources of our state. The lectures are all supplemented by laboratory work under supervision of the professors who strive to make the course thoroughly practical by adapting the work as far as possible to the needs of each individual.

There is no charge for tuition and no laboratory fees in this course, neither is there any educational test for entrance. Any man or woman who desires information along the lines of horticulture, dairying, etc., will be welcomed. Good board and lodging may be obtained in Corvallis at from \$2.50 to \$4.00 per week, and those desiring to lessen expenses by boarding themselves can obtain furnished rooms at reasonable rates.

Work will begin promptly Tuesday, January 11th, and close Thursday, February 10th. The lectures, which will be illustrated by a stereopticon under the skillful management of Prof. Pernot, should be taken consecutively to secure the best results.

### THE LIBRARY.

An important source of information for those taking the Short Course is the Station and College library where the best books on agriculture, horticulture, dairying, etc., are found. Bulletins of the Department of Agriculture and various experiment stations, with files of the leading agricultural papers, which are readily accessible, give valuable information regarding recent advances in horticultural methods.

An effort will be made to direct the reading along definite lines so the reader, with the least expenditure of time and labor, may become familiar with the literature bearing on his particular occupation.

## DAIRYING AND CLOSELY RELATED SUBJECTS.

### BREEDS AND BREEDING.

PROF. H. T. FRENCH.

Under this head will be given several lectures on the History of Dairy Breeds, including remarks upon the conditions which have been instrumental in specializing certain breeds.

The subject of breeding includes the principles as well as the practices in breeding. Among the topics discussed under breeding will be heredity, atavism, variation, in-breeding and line-breeding. Some time will be given to judging typical animals of one or more of the dairy breeds by the use of the score card.

### GRASSES AND FORAGE PLANTS.

Inseparable from the subject of dairying is the matter of growing grasses and forage plants. This important branch will receive considerable attention. The discussions will cover the subjects of varieties, effect of climate, methods of growing grasses, and the curing of grasses and clovers.

### FEEDS AND FEEDING.

The instruction given in lectures on this subject will cover the principles of nutrition; feeding standards, and how they should vary when fed for the production of growth, fat and milk. Also a general discussion of the common stock foods produced on the farms of Oregon.

## PRACTICAL DAIRYING.

F. L. KENT, INSTRUCTOR.

The practical dairy work will include both butter and cheese making. The use of the Babcock Test will be thoroughly taught both as a basis for the payment of milk received at creameries and cheese factories, and as a means of weeding out the unprofitable cows on the dairy farm. The great number using this test, during the six years it has been before the public, proves it to be one of the greatest factors in modern dairy advancement. The use of the lactometer will also be taught. The object of the lac-

tometer is to determine whether milk has been watered or not.

In addition to the work in the dairy building which will be about two hours per day, one hour per week will be given to class room work in the discussion of the various phases of the work carried on in the dairy.

## BOTANY AND SCIENTIFIC HORTICULTURE.

PROF. MOSES CRAIG.

In addition to work in the botanical laboratory, which is well equipped with specimens, microscopes, models, and other apparatus for studying the structure and diseases of plants, there will be lectures on the following subjects:

1. How to study Botany.
- a* Advantages as a study. *b* Relation to other sciences. *c* Departments and methods of study.
2. Structure of plants.
- a* Fundamental parts. *b* Plant tissues. *c* Cellular structure.
3. How plants grow and reproduce themselves.
4. Relation of plants to their environment.
- a* Soil and climate. *b* Plant food. *c* Unfavorable influences.
5. How plants are named.
- a* Plant characters. *b* Principles of classification. *c* Groups of plants.
6. History and distribution of plants.
7. Uses of plants—Food plants, medicines and dyes.
8. Weedy and poisonous plants.
9. Textile plants, lumber and oil producing plants.
10. Spore plants—their structure, importance and use.
11. Diseases of plants.
- a* Their cause and prevention. *b* Parasitic fungi. *c* Rusts and smuts of cereals. *d* Leaf-spots, mildew, blights, rots, and bacterial diseases.
12. Forestry in the United States.

Horticulture comprises two distinct yet closely related branches, namely, the general principles underlying all horticultural practice (= horticulture as a science) and experimental or practical work (= horticulture as an art). These principles will be presented in the following lectures:

1. Horticulture as a profession.
  - a* Diversified horticulture. *b* Special crops—Fruit culture, forced crops, seed-growing, trucking, etc.
  2. How to study horticulture.
  - a* As an art. *b* As a science. *c* Branches of horticulture.
  3. Choice of a location.
- Points to be considered—Market, climate, exposure, water supply, soil, etc.

4. Horticultural management.  
Planting, care of crop, tillage, fertilizing, picking, packing, storing, shipping, marketing, etc.
5. Economy in horticulture.  
Business methods, accounts, co-operation, grading, making a market, etc.
6. Science of pruning.  
*a* Pruning for wood. *b* Pruning for fruit. *c* General principles.
7. Science of grafting.
8. Classification of fruits.
9. Methods of spraying.
10. Diseases of fruit trees.  
Sunscald, winter blight, black spot, crater blight, brown rot, gumosis, etc.
11. Diseases of vegetables.  
Tomato rot, sugar beet scab, cucumber mildew, club root of cabbage, celery blight, onion smut, lettuce mould, asparagus rust, etc.
12. Principles of landscape horticulture.

## PRACTICAL HORTICULTURE.

PROF. GEORGE COOTE.

Three greenhouses with twenty acres of large and small fruits give unsurpassed facilities for horticultural work. The following lines will be taken up:

1. Orchard operations and culture.
2. Varieties of fruits.
3. Renovation of old orchards.
4. Propagation and cultivation of small fruits.
5. Mushroom culture.
6. Window gardening and floral decorations.
7. Cultivation of ornamental plants.
8. Vegetable culture.
9. Cross-fertilization of flowers.
10. Nut culture.
11. Greenhouse construction and management.

## CHEMISTRY.

PROF. G. W. SHAW.

A series of lectures will be given treating, on the horticultural side, of some chemical principles and laws; the soils of Oregon; the chemical composition of plants; fertilizers and their use, (*a*) nitrogen and its compounds, (*b*) potash and phosphoric acid; the chemistry of fruit, including the changes which take place in ripening and also during evaporation.

Lectures relating to dairying will be delivered under the following heads: The Chemistry of Dairy Products; The Adultera-

tion of Dairy Products and some means of detecting the same;  
The Composition of Cattle Foods..

Each of these topics will be treated in a manner which it is hoped will be of much practical benefit to dairymen. Certain of the lectures will be illustrated with stereopticon, and by a demonstration of the methods used in the laboratory of the Experiment Station.

### ENTOMOLOGICAL WORK.

PROF. A. B. CORDLEY.

No institution in the Pacific Northwest offers better opportunities for the study of insects in their relation to horticulture and agriculture.

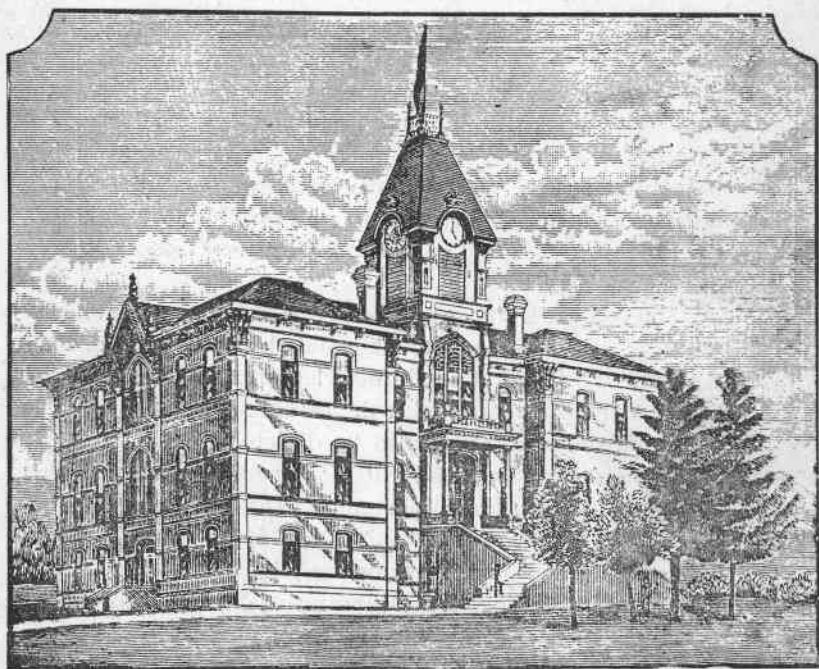
A small "greenhouse" has recently been provided for experimental work and the department is well provided with charts, books, microscopes etc., and a collection of over 1,000 kinds of Oregon insects.

During the course, lectures will be given on the principal beneficial and injurious insects of the state and the best means of controlling them. So far as possible these lectures will be illustrated with the stereopticon and with the actual specimens.

Those taking the course will also be directed to leading articles on the insects studied and will have access to many of the best books published on the subject and to the above mentioned collection of insects.

For further information regarding the Short Course, address THOMAS M. GATCH, Director of Experiment Station, Corvallis, Oregon., or

MOSES CRAIG, }  
H. T. FRENCH, } Committee on Short Course.



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