

UNIVERSITY OF CALIFORNIA  
COLLEGE OF AGRICULTURE  
BERKELEY, CALIFORNIA

AGRICULTURAL EXPERIMENT STATION  
E. J. WICKSON, DIRECTOR

CIRCULAR No. 39.

(AUGUST, 1908.)

# INSTRUCTION IN PRACTICAL AGRICULTURE

AT THE

UNIVERSITY FARM, DAVIS, CALIFORNIA.



ANNOUNCEMENT OF

FARMERS' SHORT COURSES FOR 1908

AND THE

SCHOOL OF AGRICULTURE FOR 1909.

BENJAMIN IDE WHEELER, Ph.D., LL.D., President of the University.

INSTRUCTING STAFF AND SUBJECTS

FROM THE COLLEGE OF AGRICULTURE.

E. J. WICKSON, M.A., Horticulture, Grasses and Forage Crops.

LEROY ANDERSON, M.S.A., Ph.D., Dairy Industry.

M. E. JAFFA, M.S., Poultry Husbandry.

C. W. WOODWORTH, M.S., Entomology.

R. H. LOUGHRIDGE, Ph.D., Soils.

G. W. SHAW, M.A., Ph.D., Cereals and Sugar Beets.

E. W. MAJOR, B.Agr., Animal Industry.

W. T. CLARKE, B.S., Horticulture and Viticulture.

B. A. ETCHEVERRY, B.S., Irrigation.

J. S. BURD, B.S., Fertilizers.

C. M. HARING, D.V.M., Veterinary Science.

H. A. HOPPER, B.S.A., Dairy Industry.

E. H. HAGEMAN, Dairy Industry.

A. E. WRIGHT, B.S., Irrigation.

A. J. GAUMNITZ, B.S.A., Cereals.

M. E. SHERWIN, B.S., Cereals.

J. A. DENNY, Sugar Beets.

NON-RESIDENT INSTRUCTORS.

F. T. BIOLETTI, M.S., Hollister, Viticulture.

W. B. MACK, D.V.M., University of Nevada, Veterinary Science.

CHARLES KEANE, D.V.S., State Veterinarian of California, Veterinary Science.

F. H. MCNAIR, D.V.M., Berkeley, Poultry Diseases.

MRS. M. E. SHERMAN, Fresno, Horticulture and Viticulture.

MRS. A. BASLEY, Los Angeles, Poultry Husbandry.

FRANK T. SWETT, Martinez, Viticulture.

G. N. HECKE, Woodland, Horticulture and Viticulture.

EARL MORRIS, B.S., County Entomologist, Santa Clara, Entomology.

W. H. VOLCK, County Entomologist, Santa Cruz and Monterey, Entomology.

J. S. HUNTER, County Entomologist, San Mateo, Entomology.

V. G. HUNTLEY, Petaluma, Poultry Husbandry.



Creamery, Pavilion, and Cottage No. 1.

## INTRODUCTION.

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The object of this circular is to call attention to the preparations of the University to meet the needs of the many men and women who will come to the Farm to attend the Short Courses in Agriculture, announced in Circular No. 37; and to give the details promised regarding the School of Agriculture to open in January, for boys of fifteen years of age or over. The first point is presented largely through illustrations, all of which have been taken upon the Farm, and show farming operations and implements and the work of constructing a few of the many buildings which will be needed as the institution grows.

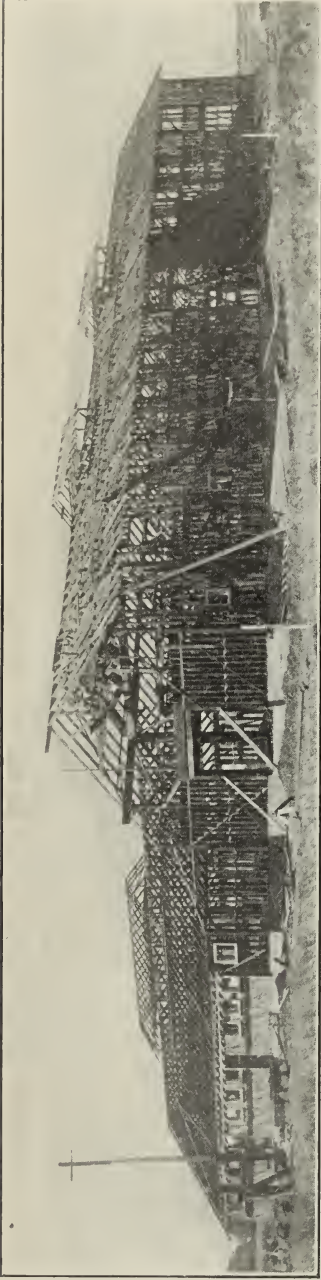
Details of the Short Courses not repeated herein will be found in Circular No. 37, and the reader who has not a copy is asked to write for one. Description of the longer courses for boys will be found on the closing pages of this circular, and if the perusal of them cause any further question to arise, a personal correspondence will be welcomed.

The Short Courses are primarily for farmers—for busy men and women who want to know more about their everyday problems, but who can not spend as much time away from home as when they were boys, or as much as they plan for their sons to spend in an agricultural school. Any one who is seventeen years of age or over and desires to learn will be welcomed.

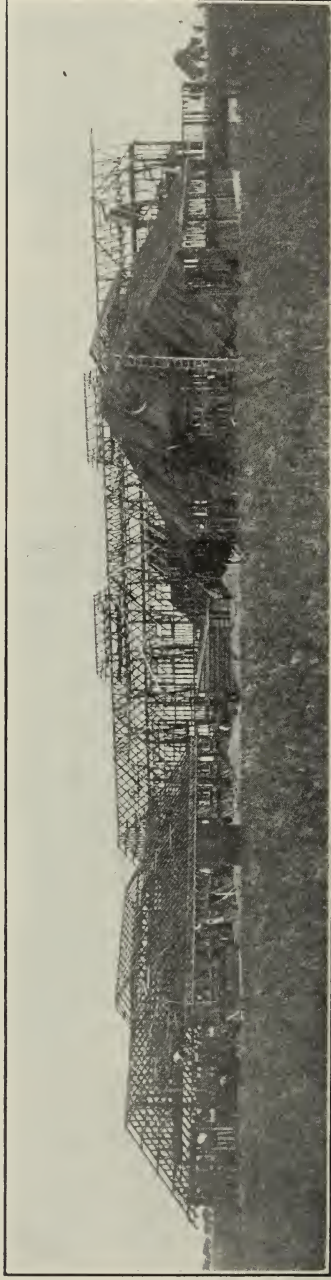
Thinking that this circular may reach some who have not seen Circular No. 37, we repeat the calendar and essential notices regarding the Short Courses. The application form in Circular No. 37 should be used by those desiring to enter the Short Courses, while the application form in this circular is for the School of Agriculture.

Additional information regarding instruction at the University Farm will be gladly furnished upon request.

LEROY ANDERSON,  
Superintendent of University Farm Schools.



The big dairy barn under construction.



Dimensions: Main or feed storage section 41 x 168 feet. Each wing 41 x 105 feet.



## CALENDAR OF SHORT COURSES.

DAIRY MANUFACTURE.—Eight weeks. October 5th-November 25th.

IRRIGATION, SOILS, FORAGE CROPS AND CEREALS.—Three weeks.  
October 12th-31st.

POULTRY HUSBANDRY.—Eight days. October 12th-20th.

ANIMAL INDUSTRY AND VETERINARY SCIENCE.—Four weeks. Octo-  
ber 21st-November 18th.

HORTICULTURE AND VITICULTURE.—Three weeks. November 4th-  
25th.

**The University Farm** is situated at the town of Davis in Yolo County. It adjoins the town on the south and west, and the main buildings are not more than one half mile from the town's business street. Davis is at the junction of the Oregon and Central overland railway routes and thirteen miles westward from Sacramento.

### DAIRY MANUFACTURE.

#### EIGHT WEEKS.

*Monday, October 5th—Wednesday, November 25th.*

**Object.** To give an insight into the principles underlying the production of pure milk and the manufacture of milk products, and to afford an opportunity of making and handling milk products under the instruction of successful operators.

**Instructors:** Professor ANDERSON, Associate Professor MAJOR, Assistant Professor HOPPER, Dr. HARING, Mr. HAGEMAN, and others.

Lectures and recitations on the secretion, composition, and testing of milk; fermentations in milk and their control; principles and objects of pasteurization; separation of cream, cream ripening and use of starters; churning and controlling moisture in butter; cheese making and curing; dairy bacteriology; breeds of dairy cattle; steam-engine, and other subjects of vital importance to the creamery operators.

Two lectures daily for eight weeks. Practice in butter and cheese making, milk testing, dairy bacteriology, and machinery, 4 to 6 hours daily, including Saturday.



The Creamery. Farmers' Institute, 1907.



Creamery—Separator and Churning Rooms.

## POULTRY HUSBANDRY.

EIGHT DAYS.

*Monday, October 12th—Tuesday, October 20th.*

### **Breeds and Management.**

Professor JAFFA,

Mrs. BASLEY, Mr. HUNTLEY, and others.

Study of breeds and breeding, feeding, care and management, incubators and incubation, egg testing, housing, and judging poultry.

Three lectures daily and practice each afternoon from Monday to Saturday.

### **Diseases.**

Dr. HARING and Dr. McNAIR.

Discussion of the common troubles of fowls and infectious diseases; caponizing and other poultry surgery.

Monday and Tuesday, October 19th and 20th. Three lectures and afternoon practice each day.



Putah Creek has a picnic ground.



Constructing an irrigating ditch.



The completed irrigation ditch.



IRRIGATION, SOILS, FORAGE CROPS AND CEREALS.

THREE WEEKS.

*Monday, October 12th—Saturday, October 31st.*

- Irrigation.** Assistant Professor ETCHEVERRY and Mr. WRIGHT.  
Explanation of principles and construction of levels and level rods.  
Practice with levels and rods. Staking out work, calculating quantities and keeping notes.  
First week, 2 lectures and 3 hours field work daily.  
Preparation of land for irrigation. Description of tools used in digging laterals and grading land. Different methods of applying water. Measurement of water and computation by means of meters, weirs, floats, etc.  
Second week, 1 lecture and 3 hours field work daily.
- Soils.** Associate Professor LOUGHRIDGE.  
Lectures and field illustrations of soil types, movements of soil water, etc.  
First week, 1 lecture daily and field work by appointment.
- Grasses and Forage Crops.** Professor WICKSON.  
A discussion of the various lands available for pasturage and forage purposes in California; of the policies which yield best results, and the culture of grasses and other forage plants which have shown special adaptation to California conditions under rainfall or irrigation.  
Third week, 1 lecture daily.
- Sugar Beets and Cereals.** Associate Professor SHAW, Assistant Professor BURD, Mr. GAUMNITZ, Mr. SHERWIN, and Mr. DENNY.  
Sugar beet culture. Soils and climates, selecting and testing seed, preparation of land, fertilizer and water requirements, cultivation and irrigation, conserving the fertility under beet culture.  
Second week, 2 lectures daily.  
Cereal production. Wheat, barley, and oats, types, distribution, and adaptability, grading grain as to quality and selection of seed. Corn, its structure and composition. Maintaining fertility under cereal culture.  
Third week, 1 lecture daily and 2 hours field work.



Irrigated sugar beets.



Unirrigated sugar beets.

## ANIMAL INDUSTRY AND VETERINARY SCIENCE.

FOUR WEEKS.

*Wednesday, October 21st—Wednesday, November 18th.*

**Animal Industry.** Associate Professor MAJOR and Special Lecturers.

Lectures and practice work in judging the various breeds of live-stock, their history, selection, feeding, care, and management; planning farm buildings; raising and handling forage crops.

First week, dairy cattle; second week, beef cattle; third week, horses, jacks, and mules; fourth week, sheep and swine.

**Veterinary Science—Minor Surgery and Clinics.**

Dr. HARING and Special Lecturers.

Practical facts regarding the anatomy and physiology of domestic animals, illustrated by actual dissections by students. Instruction in the preparation of simple farm medicines and the care of sick animals. Minor surgical operations such as dehorning, castrating, and spaying.

Throughout the 4 weeks, 2 afternoons per week.

In connection with this course a free clinic will be conducted at the Pavilion on Monday and Tuesday afternoons.

**Veterinary Sanitary Science.** Dr. HARING and Special Lecturers.

Lectures and practice in tuberculin testing, vaccination, preparation and application of disinfectants and post-mortem examinations.

Third and fourth weeks, 1 lecture daily and practice to be arranged.



Some of the young stock. Alfalfa at the right.



Ready to sulphur the vines for mildew.



Plant propagation by students.



## HORTICULTURE AND VITICULTURE, INCLUDING ENTOMOLOGY.

THREE WEEKS.

*Wednesday, November 4th—Wednesday, November 25th.*

### **Horticulture and Viticulture.**

Professor WICKSON,  
Assistant Professor CLARKE, Mrs. SHERMAN, Mr. BIOLETTI,  
Mr. SWETT, Mr. HECKE, and others.

A lecture and demonstration course covering the planting, care and management of orchards and vineyards. So far as the season and material at hand permit, the student will perform the various operations connected with the establishment and maintenance of orchards and vineyards. Considerable attention will be given to the commercial side of orchard and vineyard operations, methods of disposition of the crop, and similar topics. Bench grafting and similar operations will receive much attention.

Three weeks, 1 lecture daily and practice each afternoon.

### **Entomology.**

Associate Professor WOODWORTH,  
Mr. MORRIS, Mr. VOLCK, and Mr. HUNTER.

A series of practical lectures and demonstrations illustrating and discussing the problems of insect control, including the following subjects: codling moth, peach moth, potato moth, corn worm, cutworms, grasshoppers, vinehoppers, cabbage aphid, melon aphid, apple-leaf aphids, woolly aphid, phylloxera, San José scale, red and yellow scale, black scale, brown apricot scale, white fly, fruit thrips, red spiders, etc. Also a detailed discussion of arsenical sprays, distillate emulsions, lime sulfur mixture, and cyanide fumigation.

Three weeks, 1 lecture and a 1-hour demonstration daily.

Excursions to nearby packing houses, orchards, and vineyards will be arranged for Saturdays during the continuance of these courses. Students will thus be enabled to observe methods under the most favorable conditions. Reading rooms will be available, and illustrated lectures covering various phases of orchard work will profitably occupy certain evenings while these courses are in progress.



Experimental plats. Wheat.



Legumes for cover crop.

## REDUCED RAILROAD RATES TO THE SHORT COURSES.

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The Southern Pacific Company has arranged, on account of the short courses, a rate of one and one-third fare for the round trip—receipt-certificate plan—from all points in California to Davis and return. Tickets may be purchased for the going trip from September 25th to November 25th, inclusive. When buying the ticket to Davis, secure a receipt therefor from the agent. Receipt-certificates held by students registered in the short courses will be viséd by the Secretary, and will then be honored for the return trip at one-third rate, from October 5th to November 28th. This rate will also apply to persons attending the State Farmers' Institute at the University Farm, October 8, 9, and 10, 1908.

## SPECIAL LECTURES.

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A feature of the Short Courses will be addresses by prominent and representative men, including President Benj. Ide Wheeler of the University of California, Professor E. J. Wickson, Dean of the College of Agriculture, Judge Peter J. Shields of Sacramento, Hon. Arthur R. Briggs, President of the State Board of Trade, and Superintendent Wm. T. Randall of the Preston School of Industry. The addresses will be upon topics of general public interest, and will be given usually upon Friday evenings during the Short Courses.

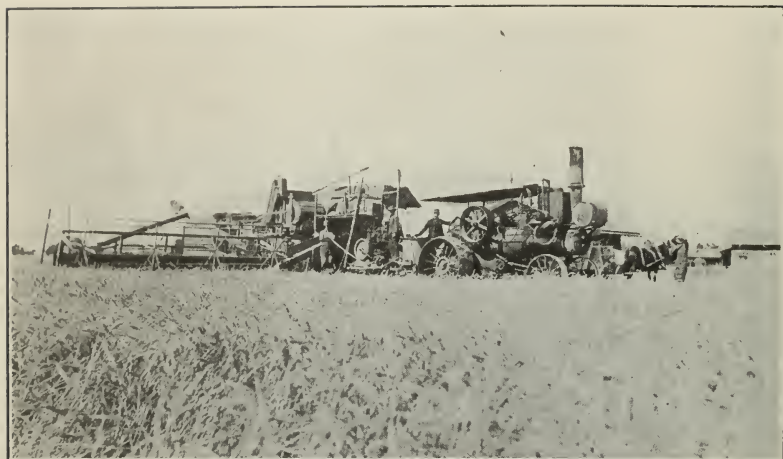
## STATE FARMERS' INSTITUTE.

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The annual State Farmers' Institute will be held at the University Farm on October 8th, 9th, and 10th. These meetings will be addressed by notable men from our own State and from abroad, and will be of value to those who may be in attendance.

The programmes for these meetings will be published at a later date.

Reduced rates on the Southern Pacific lines within the State are offered for attendants upon the Institute. The rates are one and one-third fare for the round trip on the receipt-certificate plan.



Combined harvester and thresher in the barley.



One of the 'Varsity eights.



## THE SCHOOL OF AGRICULTURE.

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Opportunity is offered in this department for regular and systematic study of agricultural subjects and for agricultural practice to boys and young men who are able to remain at the farm for two or three years. The work is planned especially for the very large number who desire to better fit themselves for the occupation of farming. In the School of Agriculture the student pursues the essential academic subjects of the high school, such as English and mathematics, but devotes the most of his time to agricultural subjects and the sciences relating directly thereto. This course does not fulfill the requirements for entrance to college, since its object is to furnish a technical training in agriculture to those who have not felt that they desired or were able to pursue a college course.

The course of study for the first year will be: English 5 periods, Arithmetic 3 periods, Soils 7 periods, Botany and Plant Propagation 9 periods, Dairying 7 periods per week, and Farm Practice as opportunity offers.

Applicants for admission to the School of Agriculture must be at least fifteen years of age, and must give satisfactory evidence of good moral character and good behavior. Applicants thus qualified will be admitted without examination upon presenting a diploma of graduation from any grammar school (eighth grade) of the State.

Applicants who do not hold a grammar school certificate, but who submit a recommendation from their last teacher or their Superintendent of Schools, will be admitted upon passing satisfactorily an examination in English, Arithmetic, United States History and Geography covering the usual work done in the grammar schools. The examination for the first term will be held in the Creamery Building, Tuesday, January 5, 1909, at 9 A. M. Registration of students will be from 2 to 4 P. M. on the same day.

Applicants should enclose their grammar school certificates when sending their application for admission. The certificate will be returned after registration in January. The applications of those who expect to be admitted upon examination should be accompanied by recommendations from teachers or Superintendents.

Tuition is free, and the only charge made is a fee to cover the cost of materials used. This will be \$5.00 for the first term, from January to May. A deposit of \$5.00 will be required to cover the cost of breakage of glassware or apparatus or of locker keys. Such portion

of the deposit as is not needed to cover breakage will be returned at the end of the term. The fee and deposit are payable at the time of registration.

Board and room cost in Davis about \$25 per month. It is the plan to provide dormitories for as many as possible of the young men attending the School of Agriculture, but owing to the unavoidable delay in beginning the building which is now being constructed, no announcement of accommodations for the coming year can be made at the time of writing.

### CALENDAR, SCHOOL OF AGRICULTURE, 1909.

Entrance examinations and registration.....Tuesday, January 5  
Instruction begins.....Wednesday, January 6  
Washington's Birthday.....Monday, February 22  
Recess of one week.....Saturday, March 27—Monday, April 5  
First term ends.....Friday, May 28



Pavilion. Farmers' Institute, 1907.

UNIVERSITY OF CALIFORNIA—SCHOOL OF AGRICULTURE.

UNIVERSITY FARM, DAVIS, CALIFORNIA.

SCHOOL OF AGRICULTURE.

Application for Admission.

Date.....

Name in full.....

Residence .....

Date and place of birth.....

Parent or guardian will approve this application by signing below.

.....  
.....

(Business address.)

Certificate from School Last Attended.

The above-named applicant.....enrolled in the  
.....School .....

completed.....grade  
with the following record: Scholarship, .....

Department, ..... Attendance, .....

Dated at....., 190...

I hereby recommend.....as a desirable student for the  
School of Agriculture.

.....  
(Teacher, Principal, or Superintendent.)

*Detach and mail to the Superintendent University Farm Schools.  
Davis, California.*



Cottage No. 2 and water tower. Dormitory under construction in background.