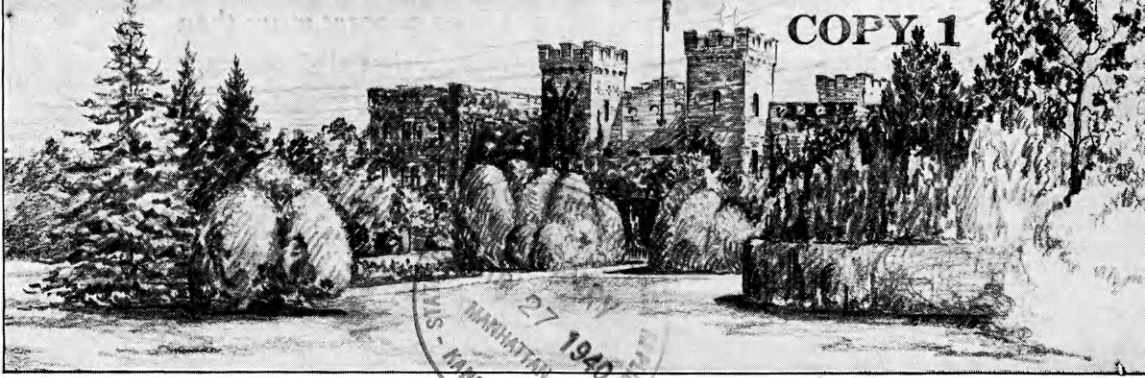


COPY 1



# THE KANSAS AGRICULTURAL STUDENT

MANHATTAN, KANSAS



MARCH, 1940



Hybrid corn may yield only ten or fifteen percent more than open-pollinated corn, yet net earnings . . . that all-important margin above the cost of land, labor and power . . . often are found to be double or triple, sometimes even ten-fold. The slightly higher investment in seed pays big returns because hybrid corn costs no more to grow than ordinary varieties.



# It's the *EXTRAS* You get that *PAY*



In farm machinery . . . and especially in farmpower . . . the same principle applies. Indeed, it goes doubly so. Farm machinery may both add to the productivity of farming and subtract from its cost. The extra acre of work done or the extra notch of depth . . . extra hour of time or gallon of fuel . . . may be but a minor fraction of the total, yet be a major factor in the payoff.

Case tractors have long been famous for their consistently high work capacity, their consistent savings in fuel, upkeep, and annual cost of ownership. Now the new Flambeau Red tractors bring new extras—wider speed range for faster work with less fuel . . . Miser carburetion . . . more convenient for easier, quicker handling . . . a host of hidden superiorities in construction still longer life and lower upkeep prepared when you have occasion to choose or to advise farmpower; now at "More Tractor Than You Saw Before." J. I. Case Co., Racine, Wis.

## *Lowest Cost* PER ACRE OF WORK

For the farmer who makes his living from farming and who **MUST** make farming pay, the correct measure of power economy is the total cost per acre, bushel or ton of work accomplished. Case tractors are engineered for the lowest cost per unit of work.

## Flashing New *Flambeau Red* **CASE Tractors**

# THE KANSAS AGRICULTURAL STUDENT

KANSAS STATE COLLEGE OF AGRICULTURE  
AND APPLIED SCIENCE

MANHATTAN, KANSAS



VOL. XIX

MARCH, 1940

No. 3

Published quarterly during the school year by the Agricultural Association of Kansas State College of Agriculture and Applied Science. Subscription rate: One year, 75 cents; four years, in advance, \$2.00; single copies 20 cents. Advertising rates sent on application. Address all communications to The Kansas Agricultural Student, Manhattan, Kansas.

## STAFF

### Departmental Staff

|                          |                               |                          |                          |
|--------------------------|-------------------------------|--------------------------|--------------------------|
| JACK BOZARTH .....       | <i>Editor</i>                 | JOHN G. DEAN .....       | <i>Agronomy</i>          |
| GLENN BUSSET .....       | <i>Associate Editor</i>       | WM. LJUNGDAHL .....      | <i>Animal Husbandry</i>  |
| GEORGE KLEIER .....      | <i>Business Manager</i>       | WM. WINNER .....         | <i>Agric. Economics</i>  |
| JOHN S. WINTER .....     | <i>Asst. Business Manager</i> | FARLAND FANSHER .....    | <i>Dairy Husbandry</i>   |
| PROF. C. W. MULLEN ..... | <i>Faculty Sponsor</i>        | WALTER KEITH .....       | <i>Horticulture</i>      |
| PAUL L. DITTEMORE .....  | <i>Advisory Editor</i>        | JOE ROBERTSON .....      | <i>Milling Industry</i>  |
|                          |                               | ROBERT N. SHOFFNER ..... | <i>Poultry Husbandry</i> |

## CONTENTS THIS ISSUE

|  |    |  |    |
|--|----|--|----|
| The 1940 Little Royal.....             | 68 | Another Trophy for the Case.....       | 82 |
| Cultivation of Orchids.....            | 70 | Apples and Apple Judges.....           | 83 |
| Jack Bozarth New Editor.....           | 71 | History of Vocational Agriculture..... | 84 |
| Some Colonial Farm Practices.....      | 72 | Hybrid Poultry—How and Why.....        | 85 |
| Joe Robertson Wins Honor.....          | 73 | Our Society Page.....                  | 86 |
| Max Dawdy's Experiences.....           | 75 | The Swift Essay Trip.....              | 88 |
| Faculty Members Keep Posted.....       | 76 | The New TracTracTors.....              | 89 |
| A. W. Erickson, Crop Reporter.....     | 77 | Abstract of Station Bulletins.....     | 90 |
| Chemistry Unpopular with Termites..... | 79 | Poultry Need Manganese.....            | 91 |
| Little Royal Photographs.....          | 80 | Learn How to Live.....                 | 92 |

Published by the Agricultural Association of Kansas State College of Agriculture and Applied Science, Manhattan, Kansas, on or before the Twentieth Day of the months of October, December, March, and May.

Entered as Second Class Matter, May 21, 1925, at the Post Office at Manhattan, Kansas, under the Act of Congress of March 3, 1879. Accepted for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized May 21, 1925.

# Abrahams, David Win Little Royal Trophies

By JACK BOZARTH

WHILE a full-sized Kansas blizzard raged outside, the clear, staccato notes of a bugle call echoed through the Kansas State College judging pavilion announcing the opening of the seventeenth annual Little American Royal at 7:30 o'clock on the evening of February 8.

All thoughts of the weather were swept aside as the crowd sensed the excitement and glamour of a genuine livestock show. The design of a savage purple wildcat surrounded by a golden sunflower and the inscription "THE LITTLE AMERICAN ROYAL—1940" faced the spectators from the center of the oval arena, sparkling with fresh, yellow sawdust and enclosed with purple drapery. Overhead hung long rows of colorful flags.

During the evening 17 classes of livestock, including more than 100 carefully groomed and trained animals, paraded before the judges' stand. The judges, A. M. Paterson, of the American Royal Livestock Show, Kansas City, and L. O. Gilmore, Kansas State College dairy extension specialist, made awards on the skill exhibited by the students in fitting and showing their animals.

Top honors of the show went to Maynard Abrahams, sophomore from Wayne, and Clayton David, junior from Topeka. Abrahams won the grand championship of the Block and Bridle division with his handling of Judy, a Duroc gilt. David was first in the Dairy division with his Holstein cow.

The champions in each class of livestock in the Block and Bridle division were:

|                        |                          |
|------------------------|--------------------------|
| Maynard Abrahams, Hogs | Hobart Frederick, Cattle |
| Arthur Stiebe, Sheep   | James Bulger, Horses     |

Champions in each of the breeds in the Dairy division were:

|                         |                          |
|-------------------------|--------------------------|
| James Cavanaugh, Jersey | Russell Nelson, Guernsey |
| Clayton David, Holstein | Warner Pape, Ayrshire    |

First, second and third placings in each

of the nine classes in the Block and Bridle division and the eight classes in the Dairy division were:

## BLOCK AND BRIDLE DIVISION

### POLAND CHINA HOGS

Merrill Abrahams, Wayne  
Jack Nutter, Morrowville  
Theodore Levin, Agra

### DUROC HOGS

Maynard Abrahams, Wayne  
Charles Schwab, Morrowville  
George Wreath, Manhattan

### SHROPSHIRE AND HAMPSHIRE SHEEP

Arthur Stiebe, Rozel  
Vernon Kiem, Manhattan  
Glen Shriver, Medicine Lodge

### SOUTHDOWN SHEEP

Leonard Robinson, Viola  
Paul Sanford, Milford  
Leonard Deets, South Haven

### CATTLE (Calf class)

Leslie Clow, Goodland  
LaVerne Harold, Parker  
Charles Adams, Wilsey

### CATTLE (Yearling class)

Hobart Frederick, Burrton  
Jack Cornwell, St. John  
Jim Guseman, Coldwater

### CATTLE (Two-year-old class)

Friederick Meenen, Clifton  
Kent Patton, Chase  
Gerald McMaster, Eskridge

### HORSES (Mares)

James Bulger, Cherryvale  
Robert Niquette, Garden City  
Keith Jones, Penalosa

### HORSES (Yearlings)

Aaron Schmidt, Newton  
Corwin Freeman, Simpson  
T. R. Langdell, Wilton, N. H.

## DAIRY CLUB DIVISION

### JERSEY COWS

William Guy, Liberty  
Leland Groff, Parsons  
Dale Percival, Beverly

### JERSEY HEIFERS

James Cavanaugh, Dodge City  
Francis Wempe, Frankfort  
Clifton Jackson, Elsmore

(Concluded on next page)



## THE 1940 LITTLE ROYAL WINNERS

### LITTLE ROYAL RESULTS

(Continued from page 68)

#### HOLSTEIN COWS

Clayton David, Topeka  
Allan Neely, Jr., Minneapolis  
Paul Danielson, Lindsborg

#### HOLSTEIN HEIFERS

William Mudge, Gridley  
Edward Reed, Lyons  
Wilbur W. Hart, Mayetta

#### GUERNSEY COWS

Russell Nelson, Falun  
Ralph Bonewitz, Meriden  
John Mistler, Leavenworth

#### GUERNSEY HEIFERS

Malvin Johnson, Moran  
Freeman Biery, Stockton  
Conrad Jackson, Elsmore

#### AYRSHIRE COWS

Merle D. Carr, Goddard  
Joe Rogers, Horton  
C. Willard Davis, Manhattan

#### AYRSHIRE HEIFERS

Warner Pape, Robinson  
Dave Goertz, Hillsboro  
Wilbur Hendershot, Hutchinson

A two-ring show had been planned to accommodate all of our Farm and Home Week visitors and a large number of local people but because of the intense cold the entire crowd was jammed into the south pavilion. William Ljungdahl, president of the Agricultural Association, served as ringmaster and kept the show moving smoothly. He was assisted by George Kleier, vice-president of the association. Marcel McVay, president of Block and Bridle, and Arthur Musset, Dairy Club president, announced the events during the show.

Ljungdahl introduced the heads of the departments who presented this year's judging teams to the spectators. The trophies offered by the American Royal Livestock Show and the Kansas City Stockyards Company to the championship winners of the Block and Bridle and Dairy Club divisions were presented by Dean L. E. Call, of the division of agriculture. The division of college extension provided the ribbons presented to the class winners.

Interest in and attendance at the show have increased steadily since the first Little American Royal was staged in 1924 for

Farm and Home Week visitors by the Block and Bridle and Dairy clubs. In 1927 it was made a fitting and showing contest for college students, and since 1935 the Agricultural Association has joined in presenting this annual event.

All animals shown are owned by the college and were assigned to the various entrants January 20. After the animals are assigned their appearance is graded by the college herdsman who assist the judges in determining which entrant has made the greatest improvement in the appearance of his animal during the brief period of preparation. Thus every entrant had an equal chance regardless of the quality of his animal.

At 10 o'clock the sound of taps officially ended the show. Following the show a lunch was served in the meats laboratory to the contestants, judges, the committeemen and guests. Short talks by Dean Call and the championship winners concluded the evening.

The 1940 Little American Royal is over, but may we express our appreciation to those behind the scenes who did so much to make it one of the most outstanding shows ever staged. Prof. D. L. Mackintosh, Dr. L. O. Gilmore, and Dr. W. E. Grimes were among the faculty men who gave much time to the Little American Royal. And we say thanks, also, to the contestants and committeemen who worked so hard and faithfully in presenting the Little Royal to the 1940 Farm and Home Week visitors.

Bruce W. Barker, '39, is Assistant County Agent at Anthony; Elmer B. Winner, '36, is County Agent at Mound City, Mo.; Warren C. Teel, '39, is County Agent at Oskaloosa; Kenneth E. Kruse, '39, is employed as animal nutrition specialist by the Staley Feed Co. at Dexter, Ill.; William A. Wade, '39, is vocational agriculture teacher at Norcatour; Roy Freeland, '37, is assistant editor of the Kansas Farmer; Frank W. Farley, Jr., '39, is fieldman for the American Hereford Journal at Kansas City, Mo.

# Thar's Gold In Them Thar Flowers

By WALTER KEITH

TO the general public orchids and luxury are synonymous, but to the scientist the orchid is a wonderful plant. There are some 17,000 species, natural and hybrid. The scientist will spend a lifetime searching the jungles for a new species or, like Andrew Benson, a famed orchid fancier and grower, will work for 35 years to develop one beautiful hybrid masterpiece.

From the luxury point of view, orchid growing is a prosperous and rapidly growing business. In 1937 nearly one and one-half million blossoms were sold for five million dollars.

A British company once paid \$10,000 for a perfect white orchid plant.

The true orchid is an air plant growing on trunks of trees. Orchids have thick spongy roots which have a capacity for taking up large quantities of water. The "Lady's Slipper" species and others are soil plants, and will grow in relatively cool temperatures while the true orchid requires a higher temperature. (60° to 70° F. at night in greenhouses.)

The seed of the orchid has a small quantity of food. This may be enough to germinate the seed, but not enough to establish the seedling. Under natural conditions a fungus feeds the germinating seed until the seedling is established. Then the fungus lives on the plant. It is not a harmful parasite to the plant, however.

Orchids were imported from the South Seas for some time until it was discovered that harmful insects were being introduced through shipment. Thus all importation was restricted except for breeding purposes, decreasing the orchid market, and the florists and growers suffered a loss. The need for large scale growing became apparent and the increased sales in the last year is the result.

The complex business of growing orchids is done on the scientific mass production

basis by the Thomas Young Nurseries of Bound Brook, N. J., which grow over 40 percent of all the orchards sold in the United States. Growers at St. Louis, Mo., in California and experimental work at Cornell University have been influential in building up the orchid industry.

There are no commercial growers in Kansas due to the need for special growing conditions. Only specialists grow them. Prof. S. W. Decker, in the department of horticulture, conducted some experimental work along this line at the University of Illinois.

In commercial growing, the seed of the orchid has to be carefully fed due to the lack of food in the seed. When the pod ripens the seeds are put into test tubes on a jelly-like substance called "agar," and are fed with an acid nutrient solution. The nutrient solution, a comparatively recent discovery for use with other plants, has been used in orchid culture for many years. The jelly-like substance affords a good medium for fungus growth, therefore the seed is kept in sterile tubes. From six to nine months is required for the plant to get large enough to be removed to the soil.

It takes three to seven years for the plant to flower, depending upon the vigor of the plant. Certain species may be crossed and the hybrid will be a more vigorous plant than either of the parent plants. However, the plant may turn out to be a "blind," without flowers. A good plant will have two or three blossoms a year, and with proper care may live for over a century.

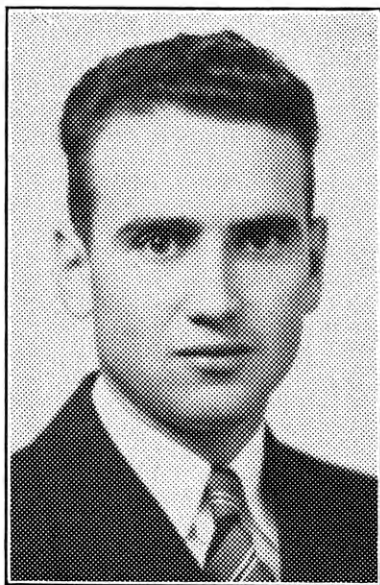
---

Winzer Petr who graduated at the end of the fall semester is working as Assistant County Agent at Kinsley; Allen Clark and Louis Landsburg who both graduated at the end of the fall semester are working with the Farm Security Administration.

## JACK BOZARTH NEW AG STUDENT EDITOR

### Your New Editor

This issue of *The Agricultural Student* is the first of two issues to be edited by Jack Bozarth, a senior in agricultural administration. Bozarth's home town is Liberal, "'way out in the mud bowl" as Jack puts it.



JACK BOZARTH

Marjorie Higgins, who was elected editor of the magazine for the full year, is not in school this semester so it became necessary for Bill Ljungdahl, as president of the Agricultural Association, to appoint an editor to take over the job.

Ljungdahl and the executive committee of the association decided that Bozarth could do the job and their judgment was not in error. He has shown himself to be a good editor. One fact he learned soon was that there is a lot of work connected with getting out a magazine—considerable more than he perhaps anticipated.

So, on Jack's broad shoulders rests the full responsibility for the magazine. And all the credit, too, if you like his first issue.

—Paul L. Dittmore.

### Training for Government Service

For prospective government officials, the Kansas State College department of economics and sociology is proving to be a good training ground. The recently announced appointment of Roy M. Green, formerly professor of agricultural economics at Kansas State College, as Federal Land Bank commissioner highlights a long list of state and federal officials chosen in recent years from the faculty of the department of economics and sociology. Previous to his appointment as Head of the Federal Land Bank, Green had been selected as president of Colorado State College, Fort Collins, and is now serving temporarily as deputy governor of the Farm Credit Administration at Washington, D. C.

This appointment serves as a reminder that several other men formerly of the department are now holding responsible government positions. Dr. Eric Englund, former professor of agricultural economics, is assistant chief of the Bureau of Agricultural Economics at Washington. Homer J. Henney is also at Washington with the Federal Crop Insurance Corporation. Another former member of the department, William A. Murphy, is regional director of the Railroad Retirement board at New York City. Morris Evans is now in charge of the Flood Control program of the Bureau of Agricultural Economics at the Amarillo, Texas, office. Millard Peck, regional director of the Northern-Southern Plains region also of the Bureau of Agricultural Economics is stationed at Lincoln, Nebraska. W. W. Fetrow is associate chief of research with the Farm Credit Administration at Washington. Harold Hedges, another former member of the department, is also with the Farm Credit Administration at Washington.

Other former members of the department are active in state government affairs. Theodore Macklin is director of the Department of Markets for the State of California. Arnold Jones, former assistant state

(Concluded on page 91)

# "New" Farm Practices Not So New, After All

By JOHN DEAN

JOHN Steinbeck's *Grapes of Wrath* was rated as a "best seller" in 1939. For several months it was the most popular topic of conversation in all classes of society. The Book of the Month Club offers the "best" book to its members each month. Most of them are never mentioned again.

Lafcadio Hearn once remarked, "When a new book is published, read two old ones." Dean Call qualifies the statement by saying that one should not exclude new books from his reading list, but that one should select only the best books, both new and old.

Last summer Dr. W. J. Peterson, experiment station chemist, obtained an old leather bound volume published in Philadelphia during 1791. It is the ninth volume of *The American Museum or the Universal Magazine* "containing essays on agriculture, commerce, manufactures, politics, morals, religion and manners." Some of the passages contain remarkable information, remarkable because of its similarity to and in other cases its radical divergence from the modern viewpoint.

Henry Ellis, a governor of one of the West Indian Islands, described the beginnings of a hurricane in this manner: "That it usually happens in August or September, when those islands are most heated, and their soil is opened by frequent showers, and when exhalations rise in the greatest abundance. That it is preceded by an extraordinary effervescence, or bubbling up of the sea, which in turn rises on the shore, dead calms prevail, huge dark clouds are formed and the atmosphere is obscured by thick vapours sensibly mephitic."

After discussing the volcanic origin of the islands and the properties of "inflammable air" (hydrogen) he gives this solution: "In applying this important discovery to the subject of hurricanes, may one not reasonably expect, sir, that such extraordinary aerial convulsions are caused by the

occasional eruptions of inflammable air, not only from the islands, but even from the bottom of the gulf they enclose, and in such quantities as are capable of suddenly converting into water, an enormous quantity of air? Hence a vast space must necessarily be left occupied by an air extremely attenuated into which the circumjacent and more dense air would necessarily rush from all sides with irresistible impetuosity, and rise in the center of its sphere greatly above its natural level, and then, after a short pause, like a wave thrown upon the shore, descend and return with equal velocity, and continue in a state of oscillatory disturbance until its equilibrium would be restored."

Other men dabbled in scientific agriculture about the same time. Richard Peters wrote several articles in an attempt to persuade the farmers to improve their methods of farming, thus increasing their income. While chiding the ruralists about their "slovenly habits" he said, "Exceptions are happily to be met with, but the style of agriculture, under similar circumstances is too much alike everywhere. As long as those who possess it, can clear a piece of land, they apply themselves to the tillage of it; and abandon the greater part of the residue of their farms to what they deem unconquerable poverty."

After emphasizing the importance of good tillage and crop rotation he wrote, "Their candour would then, I trust, compel them to subscribe to what should be an agricultural maxim, 'A farmer should let nothing grow but his crop'."

In a second article, Peters proposed "deep trenching and frequent ploughing" as a means of overcoming the "evils of poor husbandry." (See the *Country Gentleman*, February, 1940). His method was: "With this plough, drawn by two oxen and two horses, or four of the former, I begin by

(Concluded on page 73)



## JOE ROBERTSON CHOSEN REPRESENTATIVE STUDENT

### Representative Student



JOE ROBERTSON

Joe Robertson was chosen the representative student from the division of agriculture for presentation during Farm and Home Week last month. Joe is a senior in milling industry, a member of the varsity basketball squad, business manager of the Royal Purple, and holds membership in several campus organizations. His home town is Brownstown, Indiana.

### "NEW" FARM PRACTICES

(Continued from page 72)

running as deep a furrow as possible. The next operation is made by a light plough and two horses, which pares off the sod two inches deep, with a broad furrow, turning the sod into the trench with all its weeds, roots and other pests to the soil. These are completely covered with the large plough, somewhat narrower than the small one and which by running in the same furrow, throws over a body of earth, which buries these nuisances; most of which, being placed beyond vegetation, ferment, rot, and become blessings, by adding to the fertility of the soil."

Peters remarks on his successful use of buckwheat as a green manure crop and a cover crop.

John Curvan restored his worn out soils by using "manure and succession of crops which are not only profitable in themselves, but compel good culture, with all its advantageous consequences." He rotated

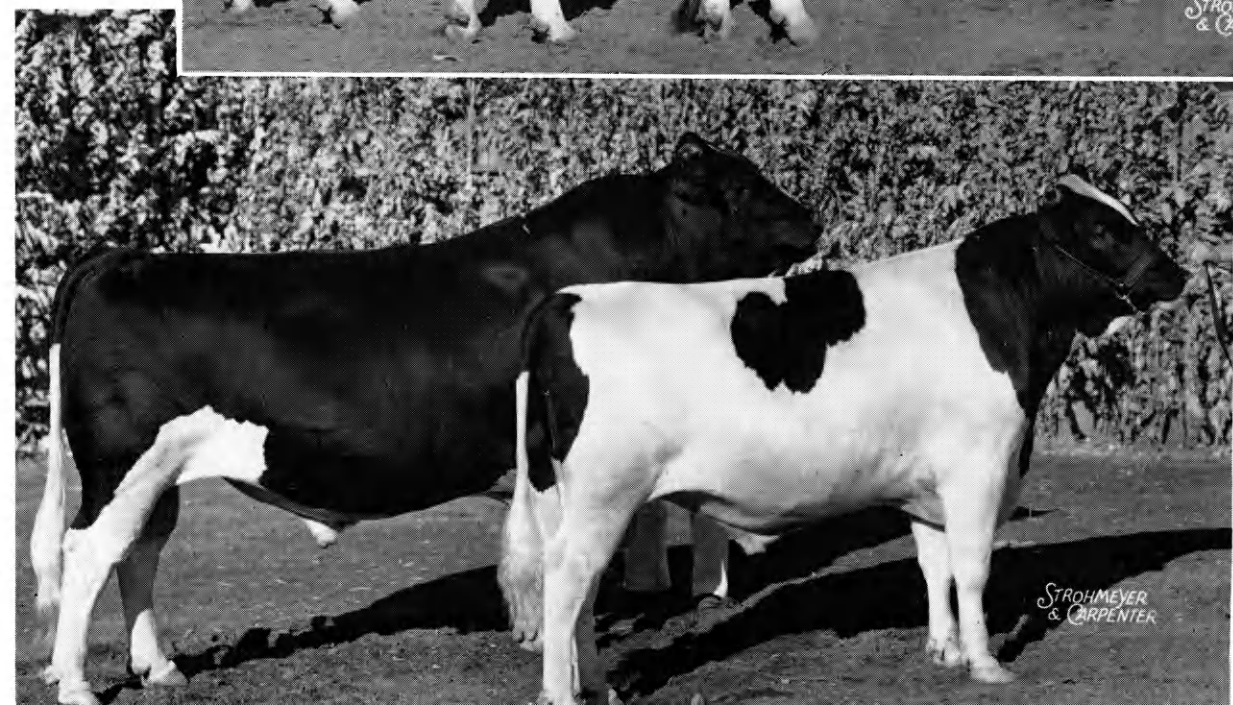
wheat, garden truck, hemp and corn, using hemp as a resting crop. He also recognized the sex of the hemp plants and selected his seed from the best female plants. However, Abbe Braille of England recommended the removing of the male hemp "that which bears only flowers and no seed" and leaving the female plants to seed.

It was a common belief that the "east wind caused blast in grains and orchards." John Cushing was convinced of this and recommended "the planting of acorns, close together, on the east and north sides of all fields" in order to escape the devastating effects of the "evil breezes."

In the same article he proposed a unique method of controlling canker worms in apple orchards. "In the autumn, before the ground is frozen, take an iron bar, and make a number of holes under each tree near the body; throw in a few kernels into each; let in swine, and they will root the ground over and over, which will not only so disturb the eggs deposited in the ground so as to destroy them, but it will be very salutary to the trees. Nothing is thought better to make apple trees flourish than to have hogs turn up the ground under them."

Even subsidizing agriculture was practiced, but not nearly as elaborately as now. The Philadelphia Society for Promoting Agriculture offered gold and silver medals, or their equivalent in money, for the best advances in each of 15 agricultural methods such as: "For the best method of raising hogs from the pig, in pens or sties, for the best vegetable food that may be easily procured and preserved, and that will best increase milk in cows and ewes, or for the best method, within the power of common farmers, of recovering old gullied fields to a hearty state, and such uniformity, or evenness of surface as will render them fit for tillage."

Socrates is credited with saying, "Employ your time in improving yourselves by others documents: so shall you come easily by that which others have labored hard for." In doing so, don't forget the "old Books" for they contain many new ideas and also offer an excellent source of amusement.



# Carnation Farms Herd Among Best in World

By WILLIAM WINNER

**"CONTENTED Cows!"**

"That's right," is Max Dawdy's reply when asked about the world famous Carnation Holstein herd at Seattle, Wash. The Carnation Farm was started in 1909 by E. A. Stuart when he purchased a run-down farmstead located 40 miles east of Seattle in the Snoqualmi River Valley and overshadowed by the Cascade Mountains. Since that time additional land has been purchased until now the farm contains contains 1,700 acres. In January, 1929, the farm was sold to the Carnation Company of which Stuart is president.

#### PICTURES ON OPPOSITE PAGE

Top—Get of Governor of Carnation. First prize get of sire at the National Dairy Show, first prize get of sire at the Pacific International Livestock Exposition.

Center—Three best cows bred by exhibitor.

Bottom—Carnation Governor Imperial and Carnation Renown.

"This farm and the surrounding country can well be called a dairyman's paradise," Max continued. Bluegrass, white clover and perennial rye grass grow abundantly in this region. The one disadvantage of the country is that it rains continuously in the winter so that the cows must be kept off the grass.

Max left Kansas on June first last year to work with the Carnation show herd consisting of 28 prize animals and a special exhibit of Carnation Ormsby Madcap Fayne, the greatest of four famous full-sisters. The show herd was headed by Carnation Governor Imperial, three-time winner of All-American honors. In 1939 he was awarded All-American honors, but he was beaten in the show ring by his own son, Carnation Renown.

Max's first duty consisted of helping fit the show herd before leaving the farm. Later he accompanied the herd on the show circuit. The most outstanding shows in-

cluded in the circuit were the Pacific International at Portland, Ore., and the National Dairy Show held at San Francisco during the latter part of October.

At the National Dairy Show the Carnation herd climaxed an unusually successful show season by winning the two most coveted prizes in the dairy show world—Premier Breeder and Premier Exhibitor. The Premier Breeder award goes to the exhibitor breeding and showing the animals winning the largest amount of money during the show while the Premier Exhibitor prize is awarded to the exhibitor whose entries win the most money regardless of breeding. Along with these two great prizes the Carnation Farm herd captured 61 first prizes during the season.

Such winnings as these are necessarily the result of great sires and dams in the breeding herd. The greatest of the Carnation herd sires is Governor of Carnation, sire of the 1939 All-American "Get-of-Sire" and of Carnation Governor Imperial, the All-American aged bull of last year. Carnation Governor Imperial is the first bull winning All-American honors at the National Dairy show ever to be defeated in the same show by his son. In the 1939 show he was defeated by his son Carnation Renown.

The greatest production bull of Carnation Farms is Matador Segis with 11 daughters having production records of more than 30,000 pounds of milk. His 54 daughters tested to date have averaged 27,573 pounds of milk and 976.6 pounds of butterfat annually. He is also the sire of the four "Madcap Sisters" and of Carnation Ormsby Butter King, officially recognized as world champion in production of both milk and fat. Her record is 38,606 pounds of milk and 1,752 pounds of fat during a 365 day period.

"The success of the Carnation Farm may be more easily understood," concluded

(Concluded on page 76)



## FACULTY MEMBERS KEEP POSTED

### Many Attend Conventions

STUDENTS on the north side of the campus wonder what goes on when annually members of the agricultural faculty and experiment station staff are absent some several days around the end of November. Report has it that they are attending the annual meeting of the American Society of Agronomy and Soil Science Society of America. Those of us who may some lucky day be engaged in agricultural research or in extension work probably ought to know something about this annual meeting of the A. S. A. and S. S. S. A.

The latest meeting of the society was at New Orleans, November 22 to 24. More than 650 agronomists attended the meeting. Every state was represented, as well as Canada. It is the big get-together of the year for men engaged in agricultural research in the field of agronomy. There are reports on experiments completed and reports on experiments in progress. Plans are laid for the future. Because it is a meeting of agronomists, problems of soils and crops are in line for discussion.

Soil chemists are there. They have been working on problems in connection with chemistry of the soil, what happens when lime and fertilizers are added, and others are trying to determine the best balance of plant food-ratios. Soil bacteriologists are there ready to report on studies affecting soil organisms and the relation of these organisms to plant growth.

Plant breeders, a whole conclave of them, are prying into the secrets of selection and hybridization of plants in the development of new varieties. Always they are seeking higher yielding strains, better quality, greater resistance to diseases and insects, yes, and even resistance to unfavorable weather.

All of these and many more were represented at the meeting in New Orleans. In order to hear their respective reports, it was necessary to hold fully 30 sectional sessions. At these more than 160 papers and reports were presented. They are not simply "placed in the record." All of them were

read and discussed. No one person can hear or would he be interested in all of these papers. Specialists attend the meetings in their respective fields. Each person probably has an opportunity to lend an ear to 20 or 25 papers in which he has an interest. Among those from Kansas who presented papers were L. L. Compton, E. G. Heyne, W. H. Metzger, and J. C. Hide.

H. H. Laude acted as chairman of the Crop-Weather Relations session. In addition to the regular society program, there are a great many committee meetings.

Kansas was well represented. Besides those having a part on the program, the following members of the administrative and research staff of the Kansas Agricultural Experiment Station were seen in the various meetings: L. E. Call, R. I. Throckmorton, E. G. Bayfield, A. T. Perkins, C. O. Grandfield, H. E. Myers, J. C. Hide, C. D. Davis, J. G. Bell, Walt Federer, Alva Finkner, Alvin Law, Maurice Peterson, Lawrence Skold. It was also my good fortune to be able to attend.

—Kenneth Parsons, '40.

### CARNATION FARMS HERD

(Continued from page 75)

Dawdy, "when one knows the men in charge of the herds." R. E. Everly, present manager of the Carnation Farm was a student at the University of Idaho while Prof. F. W. Atkeson was on the faculty there; Henry F. Dewe, herdsman; Carl Gockerill, who feeds and handles the cows, are all men of unusual ability in handling dairy cattle, as is evidenced by the records the herd has made under their supervision.

### ELECTRICAL APPLIANCES AND HARDWARE

Study Lamps      Waffle Irons  
Flash Lights      Batteries  
Ammunition and Guns

### THE AGGIE HARDWARE AND ELECTRIC CO.

Phone 2993   AGGIEVILLE   1205 Moro



# Estimates, Not Guesses, Basis of Crop Reports

By JOHN DEAN

ON February 7 A. W. Erickson was in Manhattan, enroute to Texas where he started his second inspection of the hard winter wheat producing area this season. This is the second of three trips through

this region during the wheat growing period while gathering facts for grain dealers, millers, and elevator men.

Mr. Erickson is an independent crop reporter who has developed a service so accurate that it has earned him the reputation of being one of the most reliable men in his profession. Many companies who hire their own reporters also subscribe to his service. One of the reporters of the Cargill Grain Company of Minneapolis spent several months with Mr. Erickson learning his system.

Since he became an independent reporter in 1936, he has built his list of subscribers to 270, 93 percent of whom are old customers. He has four types of services costing from \$15 to \$300 that are designed to serve all companies concerned with the grain business.

During a reporting season, Mr. Erickson personally covers the winter wheat area from Fort Worth, Texas, to the North Platt River three times, the U. S. spring wheat area twice and the U. S. soft winter wheat, and the Canadian spring wheat belts once each year. This represents approximately 65,000 miles and \$1,165 for fuel and oil. His 1940 Chevrolet coach has 13,000 miles on it. "And I was home during January," he grinned.

This system of crop reporting was established in 1918 when Mr. Erickson started to take field notes while reporting on corn instead of relying on his memory to retain his observations. He continued taking notes when he started to report wheat the next year. It soon became apparent that the temperature and evaporation power of the air were important so a thermometer, a wet bulb thermometer, an altimeter and a barometer found their places on the dash of his car. In a short time a pencil sharpener was mounted under



A. W. ERICKSON

(Concluded on page 78)

## HOW TO CONDUCT A CROP REPORTING SERVICE

A. W. ERICKSON

(Continued from page 77)

the instrument panel.

"They aren't standard equipment at filling stations yet," Mr. Erickson explained. Then he added, "The barometer isn't of much value, and I know the altitude of nearly every spot in the Great Plains now, but when the temperature goes up and the humidity is low, then things are happening!"

The first moisture tests were made with a spade, but that was a slow process and the deeper penetrations could not be observed. The farmers did not appreciate the excavations in their fields any way. Soon he met J. F. Moyer, the Secretary of the Kansas Grain Dealers Association. Moyer used a standard soil auger for his observations. Mr. Erickson immediately started to use one but he found this was too slow also. In 1936 a blacksmith made a streamlined auger five-eighths inch in diameter for him with which he could test the penetration at six feet in a minute or two.

His first recollections of anyone using the soil moisture to forecast wheat yields occurred in Decatur County, Kansas, when he was a lad of 10 watching the neighbors dig a grave. One of the men pointed to the deep layer of wet earth and said, "Well, Olie, it looks like a good wheat year."

Soon after he received his improved auger, he met A. L. Hallsted, the Dry Land Agriculture Agronomist at the Hays station. Mr. Hallsted had records on wheat yields and moisture penetration during a 20 year period. After studying these records, digging in the plots, and discussing his problems with Mr. Hallsted, he completed his present system of note taking.

"Mr. Hallsted's observations are the real basis of my moisture tests, and he deserves most of the credit for their development," Mr. Erickson said. "Dr. John H. Parker of Manhattan has taught me more about wheat than any other one man and deserves a good share of the credit, too."

While driving along the highway, Mr. Erickson takes observation notes on the

condition of the fields that touch the road. His note sheets are divided into percentage columns and one mark of the pencil is sufficient to indicate the general condition of any field that he passes. He uses 20 bushels per acre as 100 percent.

He stops periodically to make moisture penetration tests, and while in the field he takes the temperature of the soil at the surface of the ground and at a depth of 24 inches. He also notes the general condition of the plants and the extent of their root development. These observations are used as a basis for the notes taken while driving by the fields. Mr. Erickson estimates that he digs more than sixty holes in a normal day's run.

At the end of each day he has notes on the condition of the fields, the number of fields passed, the mileage between towns, air and soil temperature, air humidity, sub-soil moisture penetration, and brief incidental notes. After supper he condenses the notes into a report, types a carbon of it and makes enough copies on his hectograph to supply his daily mailing list, then sends them to his subscribers. A more complete bulletin is issued as it is deemed necessary.

"I'm not a forecaster," he protested. "I just gather facts and sell them." He says that his methods are not scientific. It is commonly conceded that moisture is the chief limiting factor of crop production in the area, and his reports are based largely on the moisture supply that the crop will have for the year. His sampling is essentially the same one that is used by the Bureau of Economics in making their surveys. He further reduces chance error by making all of the observations personally.

This is an enormous task for one man. Good cars and excellent roads make it possible for him to cover the ground, a streamlined system enables him to record the data, and an abundant supply of energy to do the work makes it possible.

---

*"Books are divided into two classes, books of the hour and the books of all Time."*—Ruskin.

# Even Termites Don't Like Chemistry Books



By GLENN BUSSET

A HAPPY family of termites probably made the mistake of their lives when they invaded a box of books in the basement of one of the members of the college faculty.

The books had been packed more than two years ago. Having no suitable place for them, the box was set in the basement over

a crack about two feet from the basement wall.

Having need for one of the books, the box was opened. Surprise: The books had been thoroughly reviewed, and even partially digested during the two years of storage. Termites had entered through the

(Concluded on page 94)



Different stages in the battle on termites. No. 1 shows the solution being poured into a trench next to the foundation. In No. 2 holes are being bored into the joists so that the solution may be forced into the joists as shown in picture No. 4. Picture No. 3 shows the books after the termites went through them.

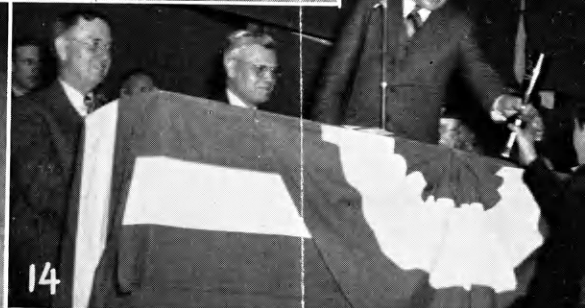




(1) Floyd Hanna, the college photographer, poses for a picture. That's news. (2) Paul Sanford and others fitting their entrants. (3) James Bulger, champion horse showman, getting the ribbon from Bill Ljungdahl. (4) The dudes of the show, from left to right, Pete McVay, Art Musset, Bill Ljungdahl, Gene Watson, Max Dawdy and George (Little Caesar) Kleier. (5) Merle Carr, Warner Pape and Bill Ljungdahl. Pape is getting his

ribbon for winning champion Ayrshire showman honors. (6) Richard Petford and Louis Cooper give Helen M. a pedicure. (7) Clayton David, grand champion of the Dairy Club division, with Piebe Vale Ima. (8) Maynard Abrahams, grand champion of the Block and Bridle division, with Judy, a Duroc gilt. (9) Oops! He dropped it. (10) Malvin Johnson, champion in the Guernsey heifer class, receiving his ribbon. (11) Reading





from left to right: Judy, Judy. The Judy on the left is Mrs. Julia Bradley of the A H office. (12) The big moment of the evening for Clayton David. (13) Frank Friedli and his group of artists working on the floor design. (14) Dean L. E. Call presenting the Block and Bridle division championship cup to Maynard Abrahams. Dr. C. W. McCampbell and Prof. R. I. Throckmorton look on approvingly. (15) Francis York, herds-

man at the cattle barn, showing the boys how to trim an Angus head. (16) Theodore (Whiskers) Langdell and others grooming their horses. (17) Dairy Club contestants at work out at the dairy barn. (18) Wm. Ljungdahl, sr., president of the Kansas Livestock Association, has a few words to say. Bud Rosenkranz and Elmer Dawdy in the background.

## Another Cup for the Trophy Case



These are the lads who went to the National Western Stock Show at Denver and came home with a cup for the trophy case in East Waters Hall. For the benefit of the few ags who don't know all of the boys, here are their names; (back row) Prof. F. W. Bell, coach; Merrill Abrahams, Mack Yenzer. (Front row) Boyd McCune, Warren Rhodes, Kenneth Jameson, Orville Burtis.

THE Kansas State College junior livestock judging team placed first in competition with nine other teams at the intercollegiate livestock judging contest held in connection with the National Western Stock Show at Denver, Colo., January 13. Members of the team were Orville Burtis, Hymer; Kenneth Jameson, Ottawa; Boyd McCune, Stafford; Warren Rhodes, Silver Lake; Mack Yenzer, Saffordville; and Merrill Abrahams, Wayne, alternate. The team was coached by Prof. F. W. Bell of the animal husbandry department.

The Kansas team scored 3,350 points out of a possible 4,000 points to lead the second place Wyoming team by the narrow margin of four points. Other high ranking teams and their scores were: Texas Tech College, 3,327; Colorado State College, 3,295; and Oklahoma A. & M. College with 3,290 points.

In addition to winning the trophy for high team in the entire contest, the Kansas team ranked first in judging fat classes and was high team in judging sheep. They also tied for third place in judging cattle and tied for fifth in judging hogs. Members of the Kansas team who ranked high in the individual ratings were Kenneth Jameson, who was sixth in the entire contest, and Mack Yenzer, who ranked ninth in the contest. Boyd McCune placed first in judging sheep and Orville Burtis was ninth in cattle judging and tenth in sheep.

In addition to competing in the contest, the team spent several days looking over the exhibits at the show. The Denver show is noted for being the largest range bull show and auction sale in the country. This year over 100 carloads of range breeding bulls were shown and the majority of these were sold at auction at the close of the show.

## Apples Don't Fall For This Stuff

APPLE growers were relieved of their Labor Day nightmare recently by the discovery of a growth promoting substance that prevents the premature dropping of apples, according to Dr. G. A. Filinger of the department of horticulture.

This growth promoting substance is naphtholenacetic acid and is sprayed on as the fruit approaches maturity, that is before dropping starts, and again a week or ten days later. This prevents premature dropping. It is so complete a remedy that it may be applied after the dropping starts and the dropping will stop completely in a few hours. Another similar acting substance is naphthalacetimide which is nearly as good but is a little cheaper. The chief drawback to these compounds is that they are not produced on a commercial scale under competition, consequently they are too expensive for practical use.

Growers need not worry about another day such as last Labor Day when one-half of the crop was on the ground following the dry, hot, wind of the day before. Serious losses were incurred. The apples were damaged and would not keep in storage. This premature dropping caused an inferior grade of apples to flood the market and keep the price down. These points were stressed by Dr. Filinger as he discussed the paper presented by Dr. F. E. Gardner, Paul C. Marsh, and L. P. Batjer, all from the horticulture station of the U. S. D. A. at Beltsville, Md., at the meeting of the American Society for Horticultural Science held in Columbus, Ohio, December 27 to 30.

This tendency to drop is, in general, characteristic to early varieties. In this area, Jonathan is a fairly early variety and has given considerable trouble on this account to the growers in Northeast Kansas. With such varieties as Jonathan disastrous drops may occur in a few hours.

## Apple Judging Team Wins Another First

The Kansas State College apple judging team annexed its fifth consecutive victory at Tulsa, Okla., last December 6. The contest was held in connection with the Pecan Growers Association Conference.

The "Apple Knockers" batted .931 this inning and finished with a team score of 6,670 out of 7,050. Bill Ackley, Portis, led in individual honors with 2,285 points out of 2,350, Charles Carter, Morrowville, was second in the contest with 2,245, and Travis Brooks, Salina, ranked fifth with 2,140. Dick Bullock, Glasco, was alternate and would have been seventh in the contest had his score counted. Missouri U. and Oklahoma A. and M. were the other teams in the contest.

The teams were guests of the Pecan Growers Association while in Tulsa and attended their banquet following the contest. Even though the conference dealt with a specialized branch of horticulture that is not important in Kansas, the boys enjoyed the meetings.

Dr. W. F. Pickett coached the apple-judging teams of '35, '36, '37 to victories. Dr. G. A. Filinger took over those duties in 1938 and has repeated the achievement the last two years. The horticulture teams have the most impressive "win column" of any competitive group at Kansas State excepting the two mile team, perhaps.

## LOOK YOUR BEST

We do all kinds of cleaning and pressing  
Your patronage will be appreciated

BARBER CLEANERS

714 N. 12th

Phone 2118

# Future Farmers Put Theory into Practice

By ORMOND BREEDEN

YOUTHFUL managers of 5,500 experiment stations on as many farms in Kansas are consistently proving that scientific agricultural methods are superior to those once accepted as "standard." The parents, neighbors, uncles, aunts, and grandparents are watching with a scrutinizing eye and often with the critical comment that 'it won't work' as these boys put agricultural science into practice in their vocational agriculture farming programs on their home farms and in their communities. Many are the dads, who during the last 22 years, have been shown on their own farms that pigs in their son's swine enterprise have made more rapid gains than theirs because they are in a sanitary lot and receive a balanced ration, or his alfalfa is yielding more per acre because he applied lime to the acid soil.

In many instances, the father has been convinced that his son is right, and he has accepted modernized agriculture on his farm.

In February, 1917, Congress passed the Smith-Hughes Act to provide funds to assist in paying the salaries of teachers, supervisors, and directors in agriculture. These funds were insufficient, so that in 1937, Congress passed the George-Deen Act which increased the funds available for vocational education to approximately three times the amount appropriated twenty years ago. In financing vocational education, the state and local school board must match the money contributed by the federal government.

During the 22 years that federal funds have been available for vocational education in the field of agriculture, the work has grown tremendously in size. In the fall of 1917, seven Kansas high schools offered vocational agriculture to approximately 150 students. In the fall of 1939, this course was offered in 160 high schools, at-

tracting 5,550 youths. During the ten year period 1929-1939, the enrollment increased 127 percent, or from 2,515 in 115 schools to 5,550 lads in 160 institutions. In the first year of vocational agriculture, not a full-time trained agriculture teacher was available. Now, over ninety percent of the schools employ a full-time teacher. All teachers in the state have fulfilled at least the minimum requirements for technical training. Some of the larger schools have two trained agricultural instructors in their agricultural department to fulfill the school demands.

Vocational agriculture departments are not only attractive to farm boys, but to city fellows as well. The enrollment of 313 city chaps in vocational agriculture programs in 1929 has increased to 721 members in the last ten years. The city boys are taking agriculture because they are interested in it, rather than because it is a "soft" course. It is far from being that, as the boy enrolled in vocational agriculture must plant, cultivate, and harvest a crop, care and manage a livestock enterprise, carry out a conservation or soil improving practice, or carry out a combination of these enterprises in addition to doing the regular studying required in the other high school courses.

The work these boys receive in the agricultural department has changed in recent years. Many years ago, the school offered a two year course of two credits each. In this setup, the boy spent either the entire morning or afternoon in the agriculture classroom or shop. For the past three years, the state vocational agriculture administrative officers have recommended that the Kansas high school offer four years of agriculture in its curriculum. This plan provides for one credit of work during each the freshman and senior years, and two credits work in the sophomore and junior

(Continued on page 87)



# "Crossed-Up" Chickens Are Bigger and Better

By ROBERT SHOFFNER

HYBRIDS of all sorts are becoming increasingly popular with farmers. English breeders have for a long time taken advantage of the increased stimulation in the offspring when the crossing of two breeds is made. This practice has been taken up in the United States in a scientific way, and received with enthusiasm by farmers. In the animal kingdom the mule is probably the best example of hybrid vigor. Hybrid corns are rapidly replacing the open-pollinated varieties in the field. Hybridizing in poultry has become popular in the past two decades, due largely to the advent of the large commercial hatcheries and poultry plants.

In the proper crosses there is obtained a stimulation of general vigor which seems to go beyond that ordinarily found in most pure breeds. This does not mean that all hybrids are better than all pure breeds, but in general this tendency holds. It is possible in certain crosses to tell the sex at hatching time so that sexed chicks may be obtained. It is this latter advantage that prompted hatcherymen to deal in hybrid chicks as many customers want pullets for laying purposes and do not care for the cockerels. When poultry raisers bought the hybrid sexed chicks they found that the chicks grew faster, matured earlier, and laid more eggs on maturity than did the purebreeds or mongrels that they possessed previously, consequently the hybrids were enthusiastically adopted.

To some it may seem to be reverting to mongrels when crossing so many breeds and varieties, but this is not so as the hybrid is as uniform as any purebred in its characteristics.

The hybrids themselves should never be used as breeders. Herein lies the danger of hybrids, for some persons are of the opinion that if one cross is good then a second would be better. This practice will result in a mongrel flock of gen-

erally decreased quality. Pure stock of good quality should be used as parent stock in making crosses, as the quality of the parents is directly reflected in the resulting hybrids.

The poultry department at Kansas State College has been making hybrid vigor studies for the past 12 years at this station, studying the various types of poultry hybrids, comparing them with the purebreeds from which they were produced each year. In this period nearly 15,000 chicks have been produced in the project. Eleven breeds have been used in the studies which include White Leghorns, Rhode Island Reds, New Hampshires, Barred Plymouth Rocks, White Plymouth Rocks, White Minorcas, Black Minorcas, Australorps, White Wyandottes, Anconas, and Light Brahmas. To make comparisons, measures that can be detected and analyzed such as hatchability, livability, growth rate, adult weight, maturity age, egg weight, and egg production record were used.

Dr. D. C. Warren, poultry geneticist, who has been conducting the tests states, "General results indicate that all hybrids are found to be superior to the purebreeds. It seems that the good qualities of one purebreed, such as high egg production, and the good qualities of another such as large egg size, are both brought out in the resulting hybrid. Sometimes detrimental characters become evident but this seldom happens when the parent stock is sound."

With all characteristics being considered, the crossing of White Leghorns with better producing heavy breeds, as Rhode Island Reds, Barred Plymouth Rocks, Black Minorcas, and Australorps produces a hybrid which gives the best results.

"However," says Dr. Warren, "the most serious objection to such crosses is that they lay an egg which is intermediate in color between brown and white, and these eggs

(Concluded on page 89)

## THIS IS THE SOCIETY PAGE

### Entertain Judging Teams

The annual dinner for the judging teams representing Kansas State College was Friday evening, January 19, at Thompson Hall. The banquet was given by President and Mrs. F. D. Farrell, Dean and Mrs. L. E. Call, the Heads of the various Departments and their wives in honor of the members and coaches of the judging teams participating in intercollegiate contests. This includes the livestock team, men's and women's meats teams, poultry team, dairy products team, dairy cattle team, and the field crops team.

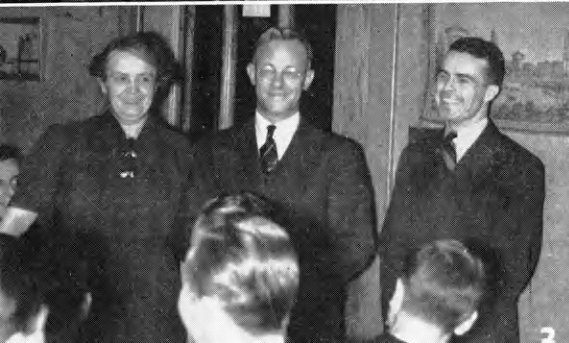
Prof. L. F. Payne as toastmaster introduced one member of each team who in turn introduced their coach, his wife, the other team members and gave a brief summary of the team's activities.

### Grimes' Entertain Ag Ecs

On the evening of February 20 juniors and seniors in agricultural administration and instructors in the department of agricultural economics gathered at the home of Doctor and Mrs. W. E. Grimes for the party which the Grimes' give each spring for the department. Special guests included several men closely associated with students in the department in extension and vocational education work.

The growth of the department was well illustrated by Dr. Grimes in his talk. Since the first of these parties was held in 1923, the number of students enrolled in agricultural administration has increased from about 25 until now attendance at the party must be limited to approximately the hundred or so juniors and seniors now in the department.

This layout is dedicated to the honest Irish face of John McCoy, president of the Agricultural Economics club, since he is in three of the four shots. No. 1 was taken at the joint meeting of the Ag Ec, Alpha Mu and Tri-K clubs when they heard Clarence (Pat) Henry of the Chicago Board of Trade. No. 2 shows Bill Winner and John Dean pouring at the same party. No. 3 was taken at the party Dr. and Mrs. W. E. Grimes held for the ag administration upperclassmen. No. 4 shows McCoy (the lone man in the lower right) leading a Farm and Home campus tour.



## THE DEVELOPMENT OF VOCATIONAL AGRICULTURE

### VOCATIONAL AGRICULTURE

(Continued from page 84)

years. Under this plan, the student begins his farming program with a feed crop as sorghum, corn, or oats which he will use to maintain his livestock enterprise which he will add to his farming program the next year. In the junior year, the boy adds a cash crop to the enterprises begun in previous years. The senior spends his time studying farm organization and management problems.

The farming program is definitely a business adventure. The boy must keep complete and accurate records on all enterprises. When he has closed his books at the end of the year, he makes a business analysis of each enterprise to compare the productivity of different enterprises, and to find the points where he has made mistakes. He is also encouraged to keep an account of his personal receipts and expenditures in his farm record book.

The student in vocational agriculture is concerned with the future as well as the present. As an essential part of his farming program, he makes plans for the current year and for three years in the future. Of course these plans are flexible; however, the boy has a good idea where he is going.

The net profit the boy has made during his four years in high school plays a very important part in his future. If he plans to farm, he has livestock, equipment, probably some machinery, and cash to start up business. At present seven or eight thousand Kansas boys who have had three or more years of training in vocational agriculture in the public high school are in rural areas of the state proving their ability as farmers.

If the vocational agriculture student wishes to get more education instead of returning to the farm, the net profit he has accumulated and the money he has invested will be very helpful. Many boys have paid all or a greater part of their expenses while in college with the money they made on their farming programs.

Over one-half of the men enrolled in

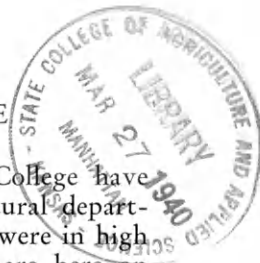
agriculture at Kansas State College have had some training in agricultural departments in the state while they were in high school. Many of these men are here on scholarships that they received for their outstanding work in agriculture in their home communities. Fifty-three of the freshmen enrolled in agriculture received \$100 from the Union Pacific Railroad Company. Former vocational agriculture students received eleven of the 15 \$150 awards made by Sears, Roebuck, and Company this year.

Not only has the boy been taught better practices in farming, but he has been trained to work with his hands in the school shop. In addition to acquiring skill in working with iron, steel, tin, wood, and many other materials, the vocational agriculture student builds articles needed in his farming program. Many brooder houses, hog houses and feeders have been constructed in the farm shop for farmers in the community. The boys learn to repair everything from a hole in the milk pail to the automobile they drive to school.

Vocational agriculture boys are raising the farming standards in their communities. One of the standards of a farming program is that the livestock and crops must be of high quality. In many areas, the students in vocational agriculture are the sources of certified seed or purebred hogs, cattle, sheep, and poultry. The production of quality products is one of the outstanding features of the course. The boys are taught from the beginning to select the best livestock and seed.

Each year the outstanding judges of each school meet in the state contest held on our campus each spring. They meet here April 29-30 this year. The winners of the state dairy, poultry, and animal husbandry division of the contest represent Kansas in the national contest held in connection with the American Royal Livestock Show. The primary aim of vocational agriculture teachers is not to win contests, but to train their students to select better livestock and better crop seed.

(Concluded on page 93)



# Essay Winners

## Get the "Works"

By RALPH GROSS

"AN effort is made here to correlate the well-known law of supply and demand in the buying of livestock."

That statement, made by Jim Boyle, head lamb buyer for Swift and Company, as he sat at his office desk in Chicago, gave 34 students from as many states a hint of what was to come in the days they were to spend in Chicago as guests of this great meat-packing and marketing concern. We were all winners of an essay contest sponsored by Swift and Company. We were all interested in the meat industries. We were there to learn. The very first thing we encountered was our old friend, the law of supply and demand.

We were to learn that receipts in the major markets are used as an index to supplies. The government maintains a relatively efficient service in estimating probable receipts at the various markets for the following day using mainly the reports of carloadings as an index. After noting the probable receipts, a buyer turns his attention to the demand situation. Just how much dressed meat can be sold within the next period of normal turnover? If sales at the branch houses have been good it indicates that the demand is strong, and vice versa.

With this supply and demand picture in mind, the head buyer knows just what orders to send to buyers for Swift and Company at their numerous plants. Local adjustments must be made at the individual markets to suit conditions but they will probably not vary greatly from the orders of the head office in Chicago since they have made such a complete study of the balance between supply and demand before issuing their orders.

But even then the market may not run as Swift and Company had predicted it would. Competition will put them in line if they are off. Perhaps competitors see a different picture as a result of their sales

and may try to buy accordingly. Swift and Company then has to adjust its markets or their buyers may get either all or none of the receipts, depending on whether they are too high or too low. A visit to the yards with one of the buyers to see the actual buying operation gives one a pretty definite impression that competition plays a real part in regulating the market.

Any packing company employs a large number of people in its plants. Each employee is guaranteed a minimum number of hours work each week. To operate the plant most efficiently, these people must be kept busy. This necessitates the buying of a certain number of livestock each day regardless of the price they must pay. The dressed products must then be moved on through the trade channels to the ultimate consumer. Often losses are incurred. A packing house may operate for days or weeks at a loss before the market is stabilized. At other times they operate at a profit and wipe out losses. They do not count on a large profit on a small turnover but rather a small profit on a large volume which is calculated to bring a net return over a period of time.

A visit to the branch house gives one an idea of the retailing of the dressed product. The branch house is owned and operated by the company. The manager practically assumes ownership of the dressed product as it comes to him from the packer and it is up to him to sell to the retailer at a profit. The retailer uses the supply of live animals on the market as an indicator as to how much he will pay. Once again the buyer and seller must agree before a sale can be made. Once again competition helps keep the price in line.

A very interesting department is the provisions department. Here the distribution of dressed meats is regulated. They know just how much beef, lamb, and pork is in

(Concluded on page 93)



## MCCORMICK-DEERING TRACTRACTORS IN 4 SIZES

### HYBRID POULTRY

(Continued from page 85)

may be discriminated against in some markets, principally the eastern ones."

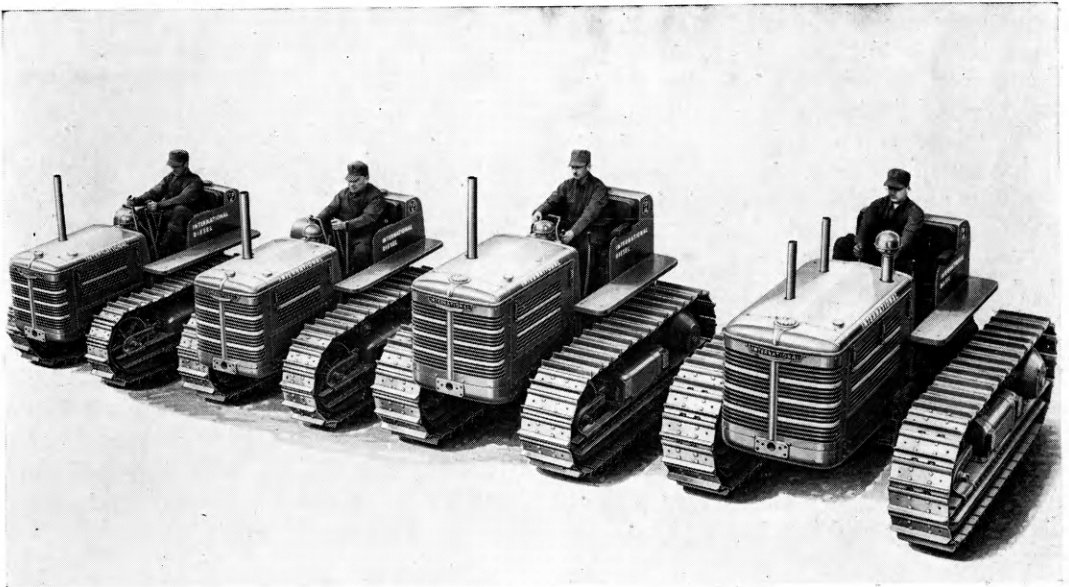
Dr. Warren suggests using the Black or White Minorca crossed with the White Leghorn to overcome this difficulty as they both produce large white eggs.

The production of hybrids, principally those of the type that can be sexed at hatching time, fits in especially well for the production of broilers. Broilers are quite often raised from the surplus cockerels, after the pullets are sold for laying flock purposes. It is possible to produce rapid-growing broilers that have a low mortality

rate. Barred Plymouth Rock males on White Wyandotte females gives an excellent heavy breed type broiler which is barred in color. New Hampshire males and White Wyandotte females produce a good heavy broiler that feathers early and well.

Some have voiced the opinion that hybrids will eventually take the place of pure breeds in nearly all farm flocks. This is doubtful, as the production of hybrids requires a skill and knowledge plus extra facilities that most farmers do not possess. Also the progeny testing of flocks is recognized as the best method of improving the flock, and this requires pure breeds to get the best results.

### New Line of McCormick-Deering TracTracTors



Above is pictured the new line of Diesel TracTracTors being manufactured by the International Harvester Co. The largest tractor, the TD-18, has six cylinders; the others have four cylinders. Each engine of this new line is provided with a distinctive method of starting by which it starts on gasoline and, after about a minute of operation, shifts to full Diesel operation. A conventional automotive-type electric starter is regular on the TD-18 and is available as special equipment for each of the other models. The "6" and "9" have five forward and one reverse speed and six forward and two reverse speeds in the "14" and "18."

## NEW BULLETINS BY EXPERIMENT STATION STAFF

### Publish 11 Bulletins

**B**ULLETINS and circulars released by the Kansas Agricultural Experiment Station during 1939 contain the most recent and authoritative information on the subjects with which they deal. The student who keeps posted on these current developments can expect to obtain the most value from his classwork.

Did you know that soybeans will produce more protein per acre than any other field crop? To get the real low-down on the latest information about soybeans, read bulletin 282, *Soybean Production in Kansas*, by J. W. Zahnley.

Also along the agronomic line, if Dad asks you "how about hybrid corn," you won't have to rely on the radio commercials for your information if you have read R. W. Jugenheimer's circular 196, *Hybrid Corn in Kansas*. The whats and whys of hybrid corn, inbreeding technique, and testing of new hybrids are discussed.

The rapidly growing range lamb feeding industry is treated in bulletin 287, *Feeding Range Lambs in Kansas*, by Rufus F. Cox. Feeds, methods of fattening, size, quality, and type of feeder lambs are discussed, as well as how and where to obtain lambs, and types of contracts in use between the producer and feeder. Of practical value to every prospective lamb feeder.

If you are tired of being trampled underfoot when you feed the hogs, you should read bulletin 286, *Equipment for Swine Production*, by B. M. Anderson and V. R. Hillman. The bulletin includes several sets of plans and accompanying bills of materials for hog houses, feeding platforms, loading chutes, watering and feeding costs, etc. Also the importance of community or individual houses and hog house location are discussed.

As long as there are old hens, some of them will get sick. The prevention and control of those diseases may spell success or failure in poultry production. Bulletin 284, *Poultry Diseases, Their Prevention and Control*, by L. D. Bushnell and M. J.

Twiehaus, is a treatise of all economic poultry diseases.

The growth, utilization and depletion of natural and planted woodlots are discussed in bulletin 285, *Woodlands in Kansas*, by E. R. Ware and Lloyd F. Smith. Suggestions for a forestry program for Kansas are included.

To cut or not to cut; that is the question. Read *Pruning Fruit Plants* circular 197, by R. J. Barnett and G. A. Filinger and you will know just when and where to prune fruit trees, vines, and bushes.

The inequalities of assessment and collection of farm real estate taxes in Kansas measured by Harold Howe and L. F. Miller are presented in bulletin 283. Some of the weaknesses and wide discrepancies of the administration of the general property tax are presented. Suggestions are made for the correction of certain of the weaknesses.

Technical bulletin 45: *Nitrogen and Organic Carbon of Soils as Influenced by Cropping Systems and Soil Treatment*, by W. H. Metzger, deals with the results obtained since 1915 on the nitrogen and carbon losses in certain soils.

A comprehensive review of the literature on carotenoid pigments is contained in technical bulletin 46, *The Carotenoid Pigments, Occurrence, Properties, Methods of Determination, and Metabolism by the Hen*, written by W. J. Peterson.

The chemical and physical changes that occur in the growth of a wheat plant are presented by E. C. Miller in technical bulletin 47, *A Physiological Study of the Winter Wheat Plant at Different Stages of Its Development*. These technical bulletins are largely for research workers and others interested in special fields.

---

Calvin Dornberger, '36, is working in the Soil Conservation Service at Parsons, Kan.; Vernon Maresch, '38, is junior agronomist with the Soil Conservation Service at Parsons.

## MANGANESE ESSENTIAL IN POULTRY RATIONS

### Mineral Deficiency Cause of Perosis in Poultry

Feeding manganese to chicks and turkeys is the factor in controlling perosis (slipped tendons) and not accumulations of protein as was formerly believed.

H. L. Wilcke, head of the Poultry Husbandry Department at Iowa State College, states that experiments showed no correlation between protein and the abnormality. A ration containing as much as 26.5 percent protein was fed without harmful effects, but turkey poultz deprived of manganese frequently developed perosis, while birds maintained under the same conditions but fed the mineral remained normal and healthy.

His experiments showed that chicks which became perotic within the first two weeks could not be helped through feeding manganese because the deficiency was due to the condition of the egg. They did show however, that if the chicks were two weeks of age, the perotic condition could be prevented by feeding manganese; and that once the chicks had perosis, feeding would not correct the condition.

Oats, a high manganese content grain, may be fed in the ration or the ration may be premixed with a mineral supplement or ground grain to prevent development of perosis.

Once upon a time there was a little pig that left home. He said he left home 'cause his daddy was such a bore and his mother was always littering up the place.

### GOVERNMENT SERVICE

(Continued from page 71)

budget director for Kansas, is now a member of the Kansas State Corporation Commission. Incidentally, Mr. Jones served for a time as treasurer of Washburn College, Topeka. Last year when Mr. Jones went to the Corporation Commission, Richard Vogel, former instructor in the Kansas State College department of economics and sociology, became treasurer of Washburn College.

From the ranks of Kansas State College extension economists in recent years have gone Dr. Ellis Stokdyk, now president of the Bank for Cooperatives at Berkeley, California; Vance Rucker, now serving as secretary of the Bank for Cooperatives at Wichita, and I. N. Chapman, with the Soil Conservation Service at Lincoln, Nebraska.

### Vocational Agriculture Contests April 29 and 30

The twentieth annual state high school vocational agriculture judging and farm mechanics contest will be held on the Kansas State College campus on Monday and Tuesday, April 29 and 30.

The Kansas association of the Future Farmers of America will hold its twelfth annual meeting in connection with the judging and farm mechanics contest.

Vocational agriculture is offered in 160 Kansas high schools and it is expected that there will be a larger number of schools entered this year.

Diamonds — Watches

College Jewelry

Silverware

We Repair

**PAUL C. DOOLEY, Jeweler**

25 Years Service in Aggieville

**AGS' TEXTBOOKS**

New and Used  
SUPPLIES

Gifts

Greeting Cards

**COLLEGE BOOK STORE**

The Bookstore of Service  
*Nearest the Campus*

## THERE'S MORE THAN "BOOK LARNIN'" HERE

### The Art of Living Should Be Learned at College

COLLEGE is more than a place to get "book larnin'," for students are interested in getting a well-rounded education as well. One well-known attribute of an educated man is the ability to live and work agreeably with other people. The various organizations open to agricultural students at Kansas State College provide an excellent opportunity for such development.

The departmental clubs are first in the minds of most ag students. These organizations provide occasion for the members to become familiar with the extent of their field and, equally important, to associate with the faculty on a man-to-man basis. The organizations at Kansas State of this type are the Agricultural Economics Club, Block and Bridle, Tri-K, the Dairy Club, the Horticultural Club, and the Poultry Club. Membership in these clubs is open to most of the men enrolled in the respective departments.

Other organizations open to the student body at large provide fellowship with students of all divisions. They offer much the same opportunity for the development of leadership as the departmental clubs but vary as to the type of activities that are followed. Collegiate 4-H Club, Y. M. C. A., literary societies, and the various religious groups are of this nature.

In recognition of outstanding scholarship and leadership, many men are elected to professional or honorary fraternities.

Membership in the former is limited to men in agriculture who have shown outstanding leadership in the classroom and outside activities. Alpha Zeta, Alpha Mu (limited to milling students), Gamma Sigma Delta, and Sigma Xi give such recognition.

Other fraternities, such as Phi Kappa Phi, limit their membership to those who rank especially high scholastically and have no divisional or departmental restrictions.

All of these organizations are worthy of support and each has its advantages. The departmental and general clubs offer excellent opportunity for fellowship and experience in working with others, while the honorary and professional fraternities offer a challenge, a goal to be attained. The student must decide with which of these clubs he wants to be associated, then build a balanced program of study, work, and extra-curricular activities to follow in completing his education.

The cover picture illustrates just what happens when one tries to handle a cantankerous Angus heifer with an 8-foot halter rope. The picture was taken at the cattle barn corral while the boys were fitting their animals for the Little American Royal and Johnnie Elling tried to lead his Angus heifer out of the barn. She took Johnnie up and down the corral for quite a work-out. The Hereford bull in the background seems to be taking in the whole show quite casually.

J. Dean Lerew, '37, is junior agronomist for the Soil Conservation Service at Parsons.

**Co-Op Book Store**  
**SCHOOL BOOKS**  
**AND SUPPLIES**  
**In Aggieville**

**STUDIO ROYAL**  
**Portraits in the**  
**Modern Manner**  
**by**  
**LAWRENCE BLAKER**  
1202 Moro      Dial 3434



## THE DEVELOPMENT OF VOCATIONAL AGRICULTURE

### VOCATIONAL AGRICULTURE

(Concluded from page 87)

Vocational agriculture not only trains its students in a vocation, but it trains them to become more capable leaders and to co-operate with others. The Future Farmers of America, a national organization of farm boys studying vocational agriculture, was organized in Kansas City in 1928. Kansas is a member of the national organization of the Future Farmers of America which is comprised of 47 states, Hawaii, and Puerto Rico. The Kansas association sponsors many activities. Among them are the public speaking contest in the spring in connection with the judging and shops contests, and the "Better Chapter" contest in which it recognizes the ten outstanding chapters in the state, and gives honorable mention to fifteen others that have completed fine programs.

The desire of every Future Farmer member is to receive the degrees of State and American Farmer. Two percent of the state's membership that have met the minimum requirements may be recommended for the State Farmer degree, and the state association may recommend one in every thousand of its membership for the degree of American Farmer. The recipients of these honors are selected on the basis of their leadership, scholarship, and the success of their farming programs. Two hundred and forty-four young men in the state have been elected to the degree of State Farmer since the founding of the organization. Twenty-four young men in Kansas have received the golden key of the American Farmer. Eleven of the American Farmers have attended or are attending Kansas State College, while the remaining thirteen are listed as successful farmers in their respective communities.

Vocational agriculture is producing farmers who will be better able to handle the agricultural problems of our state. Dust storms, grasshopper invasions, soil depleting agencies and scores of other problems will be met by trained men who will be more capable of overcoming these obstacles

than any other group of farmers of the past. The former vocational agriculture students and Future Farmer members are raising the standards of farming and living in their respective communities. They are in the business of building communities in our state that will be more desirable places in which to live.

---

### SWIFT ESSAY WINNERS

(Continued from page 88)

the company's packing plants throughout the country. They know just what the orders from the branch houses amount to. It is then their job to see that an even turnover is maintained in each plant so that no one will become overstocked.

Many people believe that the packer can simply pay what he pleases, sell as he chooses, and make plenty of money. Packers are accused of collusion. But after repeated investigations of the industry it appears that these beliefs are erroneous. In the first place, collusion is illegal. In the second place, the competition of some 1,200 other packers is so keen that collusion is practically impossible. Third, the turnover is so rapid that each packer is forced to operate on a sound business basis rather than on a fictitious basis in collusion with other groups.

The packing industry ranks second in size in the United States. Only when one stops to consider the factors—production, marketing, processing, and retailing—can he appreciate its magnitude and far-reaching influence. It is a splendid opportunity for any student who is enabled to observe this industry for a few days from the inside so that he may better understand something about how the system works. It is this privilege that comes to the winners of the Swift and Company essay contests. The company is a fine host.

---

Kenneth Johnson, '39, is now living at Higginsville, Mo., where he is employed by the International Harvester Company. He was transferred from Lawrence to Higginsville the middle of February.

## TERMITES CAN BE EXTERMINATED

### TERMITE CONTROL

(Continued from page 79)

crack in the basement floor. Every book in the box had been damaged, with the exception of a tome on chemistry. Even termites know better than to try to digest that stuff.

Having discovered the considerable damage inflicted to the building and its contents, a professional termite exterminator was called in. This expert inspected the situation, and advised unrestricted chemical warfare. A narrow ditch 15 inches deep was dug all around the house next to the foundation and a poisonous solution composed of 8 percent cresylic acid and 10 percent trichlorobenzene, all in a petroleum base, was poured in the ditch. One and one-half gallons of this high-powered liquid was used per linear foot. The poisonous vapors arising from this solution cause a puckering of the trachea, immediately asphyxiating any termite inhaling the gas.

A penetrating mixture of distillate and 8 percent cresylic acid was forced into the sills under 75 pounds pressure through holes bored at eight-inch intervals in the sills. This treatment gives permanent protection to foundation timbers.

Termites live on cellulose, and when wood fence posts and other woody scraps fail to satisfy their appetites, they unhesitatingly move into a house or other wooden structure. An untreated beam or wood floor in direct contact with the ground, or a large crack in a foundation is an invitation to termites. They move in quietly and may literally eat the occupants out of house and home. The better they eat, the faster they grow and the faster the colonies multiply.

The first structural indication to the owner that a Termite Wrecking Crew has moved in is the softening of a panel, weakening of a floor, or perhaps shelter tubes creeping across a foundation wall from soil to sill or joist. Subterranean termites do not move about in the light, and never reach the surface in their excavations,

which makes their discovery difficult. Houses have been undermined, and valuable libraries ruined with no external evidence of the marauders.

Termites will infest not only old buildings, but also improperly constructed new buildings. The termites usually enter buildings indirectly from the ground. Nests are built in the soil, where the workers can have ready access to soil moisture. They must have moisture to survive. This requirement is met when the wood is in contact with the soil, and the termites can live in the nest, and hollow out the wood for food. If no wood is available in contact with the soil, and the busy little termites can find no cracks in the masonry to enter, shelter tubes are constructed over the surface of stone or concrete foundations.

The primary objective in prevention is to keep all untreated wood from contact with the soil, and prevent the shelter tubes from being built across stone foundations. This protection may be obtained by inserting a two-inch continuous metal shield in the masonry of the foundation, and turning the shield downward at an angle. Because of their peculiar body characteristics, termites can't turn sharp corners. Being unable to get around the projecting shield to build their shelter tubes, the hungry marauders must either vacate or perish.

Disconnection of infested timbers from contact with the ground, or other means of effectively stopping contact with soil moisture, will cause the death of all termites in a building, no matter how numerous they are or how far they have penetrated. Prevention of the infestation is far easier and more satisfactory than any of the cures.

---

(Editor's note.—Farmers' Bulletin 1472, "Preventing Damage by Termites or White Ants," gives a complete description of termites, their habits, control methods, and proper construction of buildings to prevent infestation by termites.)