

v. 18. Oct. 1938 - May 1939

# THE KANSAS AGRICULTURAL STUDENT

MANHATTAN, KANSAS



VOL. XVIII  
No. 1  
October 1938


# A NEW CHAPTER



*from*

# Flail to Freedom



 For thousands of years . . . at least since early Bible times . . . mankind beat out its breadstuffs by brawn alone — either muscles of men flinging flails, or of animals treading out the grain. In all those ages mankind never was far from the fear of famine, and few farmers could be more than peasants. Men still living can tell of work for months at a time with the flail. A few bushels a day . . . say from 6 to 16 . . . was a long day's work.

With the new Case A-Six combine a man lone-handed can do five times as many bushels in a single hour . . . not merely the work of the flail, but of cradling, binding, shocking, hauling, stacking, and winnowing. He works not half so hard, yet his work is incomparably better.

From serfdom to freedom on the farm has been mainly a matter of machinery. Political and social servitude can hardly survive the march of machinery in the hands of men who are its masters. Today . . . as in 1842 when Jerome I. Case built his first threshers . . . Case makes machines to fit farmers for mastery of every condition of soil, crops and climate. J. I. CASE CO., Racine, Wisconsin

**IT COSTS LESS TO FARM WITH CASE**

# The Kansas Agricultural Student

VOL. XVIII

Manhattan, Kansas, October, 1938

No. 1



Above, members of Block and Bridle student judging contest, May, 1938. See page 30 for other winners.

Left to right: Top row—William G. Alsop, Jr.; M. Neal McVay, Jr.; Orville B. Burtis, Fresh.; Joe W. Lewis, Jr. Middle row—Jesse R. Cooper, Jr.; Boyd H. McCune, Fresh.; William A. Ljungdahl, Soph.; John D. Cook, Fresh.; Lloyd C. Jones, Fresh. Bottom row—Kenneth Eugene Johnson, Jr.; Frank W. Farley, Jr.; John E. Fieser, Jr.; J. Elwyn Topliff, Sr.

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# If This Be Bribery—We Like It



PRINCESSES 1938 AG BARNWARMER

Left to right: Ethlyn Marks, Burneta Young, Mae Rogg, Mary Louise Arbuthnot, Maribelle Teichgraeber. Hitch hiking? No. Each hopes to be elected queen of the Ag Barnwarmer.

ONE of these is a queen. But which one? Perhaps before this magazine is off the press, the 665 students in the Division of Agriculture will have voted by secret ballot and will have elected one of the girls in the picture herewith "Queen of the Ag Barnwarmer." But who ever heard of electing queens? Do not queens succeed to their thrones by reason of royal lineage—or by marriage?

Well, that may be true in real life, but it is not true in the wild extravaganza of Ag Barnwarmer week when none is normal or wants to be normal. It is a week of prodigality, a week when all loyal Aggies wear overalls (and lassies wear aprons) or live to regret their indiscretion. A stock tank filled with cold water quickly sets the exhilarating warmth of loyalty flowing in the veins of those so engrossed with their studies that they forget the significance of Barnwarmer week.

We could shut our eyes and place a blunt finger on a "queen," regardless of where the hand of fate might fall, but

the intelligent selection of a queen by those whose eyes are open and who are not biased by sweet smiles and enticing gestures is the more logical and democratic way to elevate a beauty to royal status.

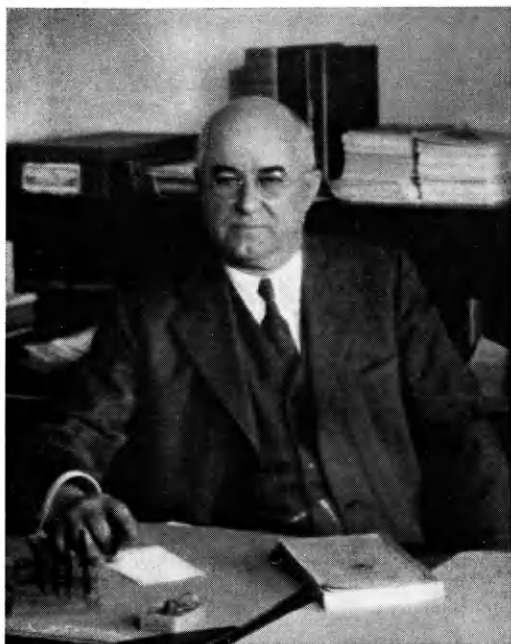
Our thanks and appreciation to each of the organizations that named a representative for the "primary" election when five princesses were selected from a bevy of a dozen beautiful young ladies, every one of whom received a creditable number of votes. None was a forgotten candidate. All were attractive. All had plenty of personality, which counts among students in agriculture.

Each group representative received a ticket to the Barnwarmer. We hope all have (or had) a good time. Without these girls we couldn't have the queen-crowning event of the evening. Since all can't be princesses and only one can be queen, we want, always, that every group representative shall join with us in the festivities of the evening and have a good time.

—W. A.

## Hugh Durham Passes On

The end of the road came into sight for Professor Hugh Durham, October 15, 1938. He was born at Randall, Kansas, September 21, 1875. In ill health since February, 1937, he had been confined to his home for many weeks. It



HUGH DURHAM

was in June, 1938, that he made his last trip to his office in Waters Hall.

More than one-third of his life time had been spent as a member of the college faculty. He came to Manhattan in 1914 to do special work in agriculture. Dr. Jardine was at that time dean of agriculture. In 1915, he named Mr. Durham as his assistant. For 22 years Professor Durham carried the student load in the Division of Agriculture. In addition he had charge of publications, doing editorial work on manuscripts as well as having charge of distribution.

Professor Durham was advisory editor of The Kansas Agricultural Student since the magazine was first published in December, 1921.

Besides his college work and responsibilities, Professor Durham was an active member of the First Christian Church of Manhattan. He was a worker in the Y. M. C. A. and served as president of the board of the college organization for a number of years and was also treasurer for some time.

He was a member of Phi Beta Kappa, Phi Kappa Phi, Gamma Sigma Delta (honorary agricultural society), and an associate member of Alpha Zeta, honorary student agricultural fraternity. He had been faculty adviser of Phi Delta Theta social fraternity since 1927, and was a member of the Masonic lodge of Manhattan.

Of Professor Durham it can truly be said, "He was never known to shirk a responsibility or slight a task."

Those of us on whom have fallen the responsibilities of carrying on his duties find no loose ends, no evidence of shoddy work, nothing undone which could possibly have been done by him up to the time of his first illness which so suddenly cut off his most effective and efficient work days.

"Professor Durham had the respect of all members of the Agricultural Experiment Station staff whose manuscripts he handled for so many years," said Dean Call. "I have never known a man who had a better knowledge of the requirements of a creditable and meritorious research publication than Professor Durham. We will miss his efficient and meticulous editorial abilities."

If his philosophy might be reduced to a few words, it would probably be, "Any help that I can give, I willingly render it. Let me do the most I can while I live."

Toward the last, Professor Durham seemed to discover with the poet Longfellow, "Alas, it is not until time with reckless hand has torn half the pages from the book of life to light the fires of human experience, that man begins to see that the leaves that remain are few in number."

—C. W. M.

# THE KANSAS AGRICULTURAL STUDENT

KANSAS STATE COLLEGE OF AGRICULTURE  
AND APPLIED SCIENCE

MANHATTAN, KANSAS

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RONALD MORTON.....Assoc. Editor  
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A. JACK BOZARTH.....Asst. Bus. Manager  
FRANK W. FARLEY.....College Notes  
GEORGE W. AICHER.....Alumni Notes  
WILLIS R. WENRICH.....Farm Notes  
PROF. C. W. MULLEN.....Advisory Editor

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WILBERT W. DUITSMAN.....Agric. Economics  
FARLAND E. FANSHER.....Dairy Husbandry  
LINUS H. BURTON.....Horticulture  
MEADE C. HARRIS.....Milling Industry  
ROBERT N. SHOFFNER.....Poultry Husbandry

## Training in Agriculture

Of the graduates from the Division of Agriculture in the class of '37, 18 percent entered farming; of the class of '36, 13 percent. Since 1920, 24 percent of the graduates either immediately upon graduation or later became farmers. Does this percentage indicate, as has been suggested, that there is something wrong with the system of study and instruction at Kansas State; that higher agricultural education "spoils" the student for the business of farming?

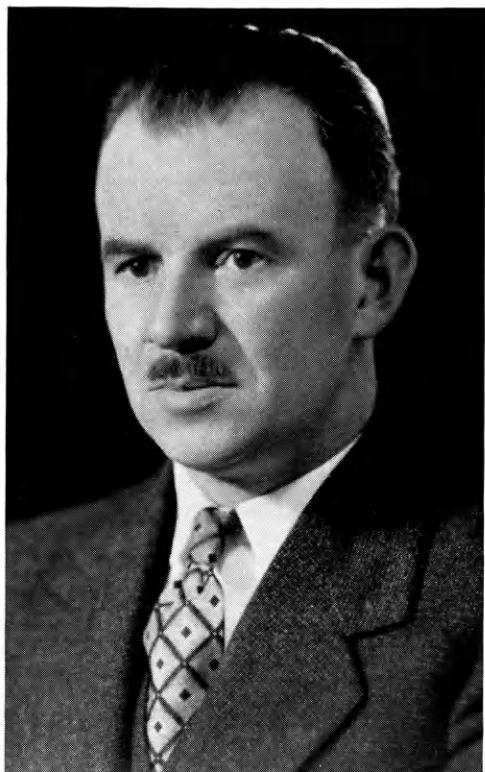
The student body is made up not only of those who graduate, but also of those who go only part of the way. The graduates ordinarily comprise only 30 to 50 percent of the original entering class. Many of the non-graduating men come to prepare themselves as practicing farmers by taking only the basic courses offered the first two years. For the most part, the non-graduating students leave college by the end of the second year, the point of division between basic and specialized courses. Many of these, now better prepared, return to farming.

Of the graduating students, most of them seem to have come for the purpose of preparing for professional work closely related to agriculture. Many have been encouraged by their parents to train for positions of greater "prestige," better and more certain incomes.

There has been and is, with the increase in governmental activity, a steady demand for men trained in agricultural economics, milling industry, crop improvement, and other fields of agricultural administration and research. There is also a demand for teachers of vocational agriculture, and for county agents. These demands for trained workers assure a higher cash income for the individual than he could reasonably anticipate from the farm prospect to which so many of our graduates would have to return.

So long as the opportunities open up, and the returns appear more attractive for "professional" agriculture, it is but natural that many students will choose to prepare for the former. The Division of Agriculture is interested in both, and offers courses in preparation for both. In fact, the greatest emphasis is on training for the business of farming.

## MILLING DEPARTMENT HEAD



DR. RALPH K. LARMOUR

### Larmour from Canada

Dr. Ralph K. Larmour, former Saskatchewan University professor, this year fills the vacancy left by Professor Rowland J. Clark, as professor in the milling department. Dr. Larmour was born in 1894 in eastern Ontario. After finishing high school in 1909, he taught school in Ontario and Saskatchewan until the end of 1915. He then enlisted in the Canadian Expeditionary Forces and had 15 months active service in France. After discharge he returned to Saskatchewan in 1919 and entered the University where during the next two years he completed the honor course in chemistry and was graduated in 1923 with the degree of Bachelor of Science in chemistry.

Two years later he earned a Master's Degree, under Dr. Thorvaldson at the same university. At the University

of Minnesota he studied for a Doctor's Degree under R. A. Gortner. His research problem was "A Study of the Glutelins of the Cereal Grains."

After obtaining his Ph. D. degree, Dr. Larmour was appointed to the Saskatchewan University faculty in charge of chemical investigations in wheat which were being inaugurated at that time. An extensive project to determine the effect of environmental conditions on wheat quality in Saskatchewan was started and has been carried on with success.

At the same time that this work was commenced, collaborative programs with Dr. J. G. Malloch at the University of Alberta and Dr. W. F. Geddes at the University of Manitoba, together with the National Research Council and the Dominion Department of Agriculture were set up. Since then he has collaborated with the members of the Associated Committee on Grain Research in a series of large scale investigations concerning the drying of wheat, the effect of frost damage, the quality of wheat varieties, harvesting methods and a number of other technical problems.

Dr. Larmour is married and has two children, aged 7 and 4.

---

Miner M. Justin was on the campus again October 20. Mr. Justin received the degree of Bachelor of Science from Kansas State in 1907; ten years later he was awarded the degree of Master of Science at this institution.

He is now Agricultural Statistician for the Bureau of Agricultural Economics, U. S. D. A., located at Purdue University. He is also head of the department of agricultural statistics for the Indiana Agricultural Experiment Station.

After receiving his last degree at Kansas State, Mr. Justin was for seven years located in Utah. In 1925, he was transferred to Indiana.

He has been asked to write a guest editorial for the December issue of this magazine. He has made a promise provided he can find the time.



# HONOR ROLL 1937-38

## Honor to These

The honor roll includes this year 282 students out of 654 who were enrolled in the Division of Agriculture a year ago. Not all students can hope to be elected to honorary fraternities having chapters at Kansas State. All students have the opportunity of attaining the distinction of having their names listed on the honor roll.

Students who earn this distinction carried not less than 12 credit hours of work each semester, had no delinquencies marked against them, and made a total of not less than 48 points for the past college year.

Those earning the distinction of having their names on the high honor roll have made not less than a "B" average for the preceding year.

Out of these honor lists come the names of men who are elected to Alpha Zeta, Gamma Sigma Delta, and Phi Kappa Phi.

The home folks are always pleased to see the names of their sons among those in the following lists. And equally and rightfully proud are the students whose names appear on this distinguished roll. Names of students on both the high honor and the honor roll follow:

### Senior—High Honor

	Credits	Scholarship av.
Rodney K. McCammon.....	29	2.90
J. Donald Andrews.....	35	2.71
Alvin G. Law.....	31	2.71
Zara W. Johnson.....	35	2.69
Walter Abmeyer.....	30	2.63
Elmore G. Stout.....	31	2.55
Fred H. Muret.....	34	2.50
Ellwood T. Baker.....	39	2.46
Carl Claassen.....	37	2.46
Wendell C. Dickhut.....	31	2.45
Rollin C. Parsons.....	31	2.42
William R. Allen.....	34	2.41
Leonard W. Bird.....	27	2.41
Roy A. Robinson.....	28	2.39
Wayne H. Freeman.....	35	2.37
Robert E. Kitch.....	34	2.29
Hugh G. Myers.....	31	2.29
Dewey Axtell.....	36	2.28
Verner E. Danielson.....	29	2.28
Charles B. Crook.....	34	2.24
Waldo W. Poovey.....	33	2.24
Jack Koster.....	30	2.23
F. Louis Brooks.....	32	2.22
Paul W. Hodler.....	33	2.21
Bruce Barker.....	29	2.17
Clyde C. Reed.....	35	2.17
Robert F. Sloan.....	30	2.17
Wilbur L. Alvey.....	39	2.10
Frank G. Bieberly.....	33	2.09
Ralph J. Hathaway.....	32	2.09
Elmer A. Dawdy.....	36	2.06
Forrest R. Fansher.....	35	2.06
Richard F. King.....	35	2.06
L. Duane Murphy.....	33	2.06

Kenneth A. Fisher.....	37	2.00
A. Eugene Harris.....	29	2.00
Roger L. Hendershot.....	35	2.00

### Junior—High Honor

Meade C. Harris.....	32	2.75
Clyde D. Mueller.....	35	2.74
Earl E. Miller.....	32	2.72
Herman J. Reitz.....	34	2.71
John Harris, Jr. ....	33	2.70
Phillip T. Allen.....	36	2.69
Arthur F. Leonhard.....	32	2.66
Lloyd E. Wildman.....	35	2.63
Earl J. Cook.....	34	2.62
James Thomas.....	31	2.61
Hilding A. Anderson.....	32	2.60
Henry Schweiter.....	39	2.59
Jim F. Mugglestone.....	35	2.49
Ellwood C. King.....	34	2.47
Carroll Brooks.....	31	2.35
H. Earl Molzen.....	33	2.33
Leonard W. Schruben.....	31	2.32
George W. Aicher.....	34	2.30
John A. Shellar.....	32	2.28
Emmett B. Hannawald.....	34	2.26
Kenneth E. Kruse.....	37	2.24
J. Richard Moore.....	33	2.24
Clifford W. Stone.....	35	2.23
Kenyon T. Payne.....	35	2.22
Eugene Payer.....	29	2.21
Norman W. Hildwein.....	34	2.15
Grayson E. Murphy.....	32	2.09
Dale E. McCarty.....	29	2.07
J. Elbert Johnson.....	32	2.06

### Sophomore—High Honor

Joseph E. Robertson.....	37	2.95
Glenn A. West.....	31	2.84
John A. Shaw.....	34	2.79
C. William Lobenstein.....	33	2.70
John G. Dean.....	32	2.69
Raymond S. Tanner.....	32	2.66
Donald I. McCoy.....	31	2.64
Kenneth B. Porter.....	32	2.63
Harold E. Jones.....	30	2.60
Delbert E. McCune.....	33	2.58
Clifton E. Jackson.....	30	2.57
John H. McCoy.....	32	2.56
Melvin R. Peterson.....	34	2.56
Robert B. Lank.....	31	2.55
Henry J. Meenen.....	35	2.54
Keith I. Harrison.....	28	2.46
J. Wallace Kirkbride.....	32	2.44
James F. Booth.....	33	2.39
Charles O. Carter.....	33	2.36
Richard M. Bullock.....	34	2.35
Dwight S. Tolle.....	33	2.30
William N. Beezley.....	34	2.29
James R. Peddicord.....	28	2.29
John L. Clow.....	32	2.28
Wilbur A. Rawson.....	32	2.25
Wilbert W. Duitsman.....	30	2.20
Kenneth F. Parsons.....	33	2.18
William B. Ackley.....	31	2.16
William O. Breeden.....	32	2.09
Marcel D. McVay.....	35	2.09
Wade Brant.....	31	2.06
Thaine A. Clark.....	32	2.06
Robert W. Wichser.....	34	2.06
Harold R. Fox.....	28	2.04

### Freshman—High Honor

Leo M. Hoover.....	33	2.97
Henry J. Smies.....	32	2.88
George W. Cochran.....	29	2.79
Max L. Dawdy.....	29	2.76
Lloyd C. Jones.....	32	2.75
Paul E. Smith.....	32	2.63
William H. Winner.....	32	2.63
Ralph H. Perry.....	26	2.62
Merton B. Badenhop.....	32	2.59
Doyle W. LaRosh.....	32	2.56
Boyd H. McCune.....	32	2.53
Arden Reiman.....	32	2.47
Eugene R. Alford.....	32	2.44
Dale C. Hupe.....	32	2.44
Wesley G. Benda.....	29 1/2	2.39
Richard W. Cope.....	32	2.38
Mack Yenzler.....	28	2.36
Roscoe D. Long.....	32	2.34
L. Eugene Watson.....	32	2.34
J. Stanley Winter.....	32	2.34



# HONOR ROLL 1937-38

Albert W. Yoxall.....	33
Richard E. Atkins.....	29
Harmond P. Bear.....	29
Robert C. Gilliford.....	32
Glenn M. Busset.....	32
C. Leigh Hines.....	32
Orville B. Burtis.....	32
Paul L. Brown.....	33
F. Jackson George.....	32
Albert H. Praeger.....	32
Everett G. Murphy.....	33
Cecil L. Prentice.....	31
Kenneth R. Jameson.....	31
John W. Dummermuth.....	32
Vernon E. Smith.....	32
Melvin R. Lindquist.....	29
Carlyle P. Woelfer.....	31
J. Harold Clay.....	32
Homer R. Lathrop.....	33

## Senior—Honor

	Credits	Points
Robert J. Anderson.....	34	50
Ernest R. Ausherman.....	34	49
Dale R. Bathurst.....	32	59
Dorman C. Becker.....	36	67
John R. Brainard.....	32	56
Blaine B. Brandenburg.....	31	52
Wilbur R. Crowley.....	36	67
Eugene P. Davies.....	30	56
Herbert S. Davies.....	31	56
Vernon L. Doran.....	32	56
Robert W. Furtick.....	31	56
Russell H. Gripp.....	37	70
Ross Haney.....	32	52
Paul W. Hensleigh.....	38	71
Milton C. Kohrs.....	34	58
Kenneth R. Leonard.....	34	51
Vernon L. Maresch.....	34	66
Floyd J. Maynard.....	35	69
Francis J. Moore.....	32	48
Howard C. Myers.....	34	53
Joseph P. Neill.....	35	63
Robert F. Nuttelman.....	33	57
Charles P. Olomon.....	34	64
Charles H. Olson.....	32	54
Richard D. Patton.....	35	56
D. Vernon Rector.....	33	62
A. Doyle Reed.....	32	59
Leroy E. Schafer.....	37	64
Carl S. Warner.....	32	60
Otto E. Wenger.....	31	56
John B. Wilcox.....	31	58
J. Leroy Young.....	35	69

## Junior—Honor

William G. Alsop.....	30	50
Robert O. Baber.....	33	63
Lawrence N. Barker.....	33	51
Raymond E. Bert.....	30	59
Glenn I. Booth.....	34	52
Linus H. Burton.....	36	70
Carol E. Coleman.....	32	50
Jesse R. Cooper.....	34	51
Delbert C. Creighton.....	32	54
Ernest W. Decker.....	35	66
Kenneth L. Enright.....	32	55
Hal W. Eyestone.....	30	53
Roy R. Green.....	30	51
Donald E. Hall.....	34	58
Keith C. Johnson.....	34	49
Kenneth Edward Johnson.....	33	49
Virgil R. Kelly.....	34	54
C. Isaac Kern.....	30	53
Lewis A. Kidder.....	33	62
Wayne Klammer.....	28	49
Ralph E. Krenzin.....	32	54
Edward L. Leland.....	32	57
Joe W. Lewis.....	33	49
M. Neal McVay.....	34	50
Richard H. Magerkurth.....	30	50
Clayton W. Marker.....	33	60
Irwin A. Miller.....	35	48
Edward F. Moody.....	33	57
Leslie C. Nash.....	33	63
Kenneth L. Nordstrom.....	32	55
William D. Paske.....	32	50
John P. Perrier.....	34	56
Morris W. Phillips.....	32	59
Verlin Rosenkranz.....	31	60
Bertel E. Soderblom.....	36	68
Alfons A. Stiebe.....	34	56

Warren C. Teel.....	33	55
J. Elwyn Topliff.....	30	49
Robert L. Turner.....	34	48
Irving Wangrofsky.....	32	58
Willis R. Wenrich.....	33	52

## Sophomore—Honor

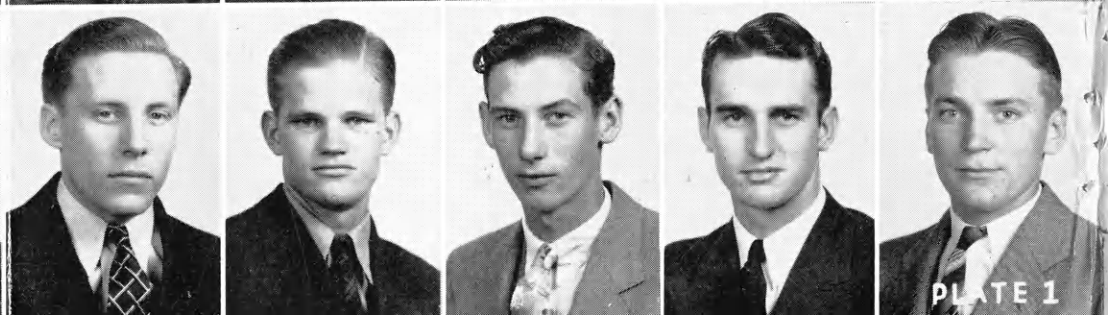
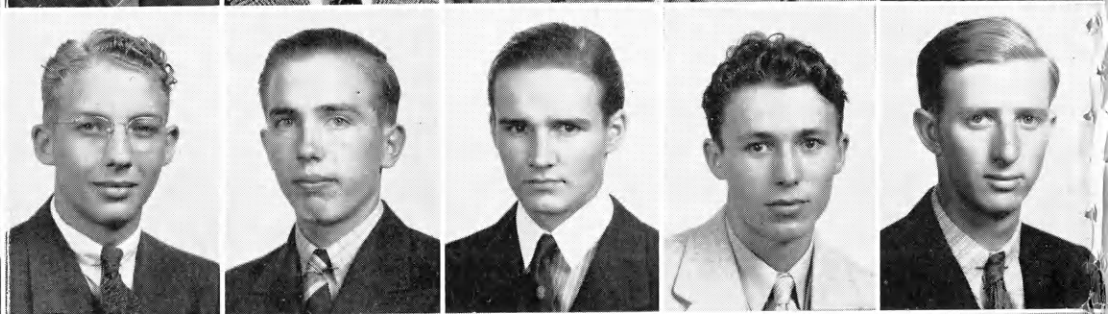
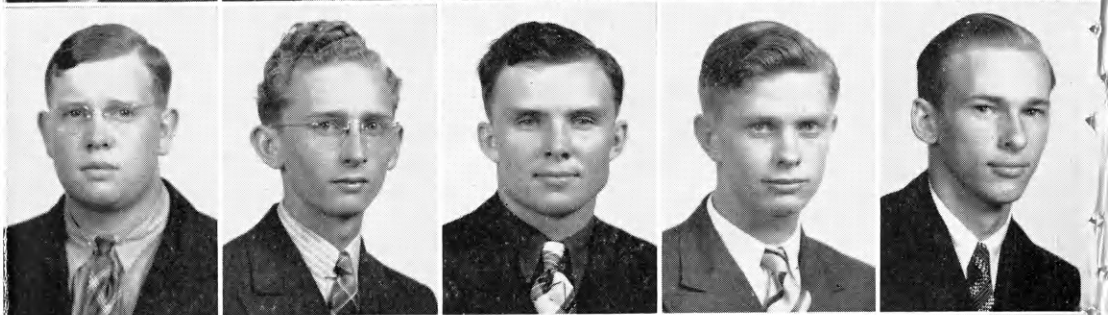
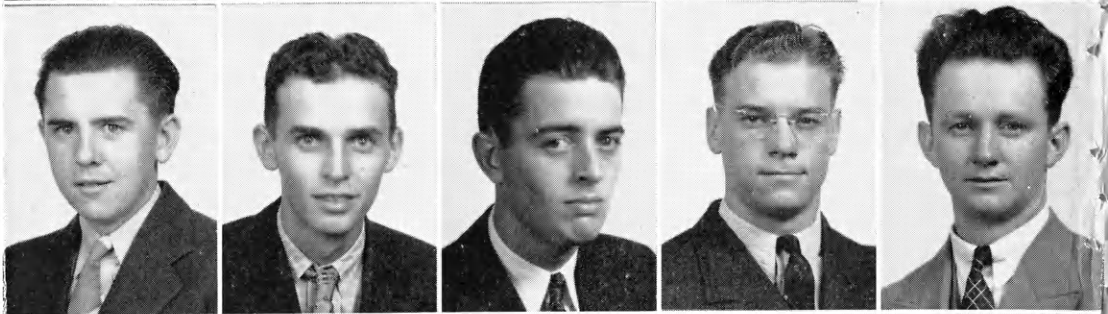
Evans E. Banbury.....	33	64
John K. Blythe.....	32	58
James C. Brock.....	30	55
Walter J. Campbell.....	32	62
James F. Cavanaugh.....	30	49
Louis W. Cooper.....	32	63
Don E. Crumbaker.....	28	49
Ray E. Cudney.....	34	65
Rex E. Cudney.....	32	54
Farland E. Fansher.....	30	57
Frank W. Farley.....	34	48
Gordon Green.....	34	56
Ralph L. Gross.....	32	63
Richard W. Heikes.....	29	53
Harold R. Jaeger.....	32	59
Elgie G. Jones.....	28	49
Ronald B. King.....	28	55
Donald B. Kinkaid.....	32	49
George W. Kleier.....	32	57
Glenn H. Kruse.....	33	64
Roland A. Kruse.....	33	64
John W. Livingston.....	33	56
G. Nolan McKenzie.....	32	53
Howard B. May.....	32	59
Wayne D. Morgan.....	33	54
Robert H. Musser.....	32	49
E. Dale Mustoe.....	34	67
James T. Neill.....	29	57
Laverne M. Odden.....	32	58
R. Glenn Raines.....	31	50
Milan W. Smerchek.....	31	53
Beverly D. Stagg.....	32	60
Arthur Stiebe.....	32	63
William W. Wempe.....	32	52

## Freshman—Honor

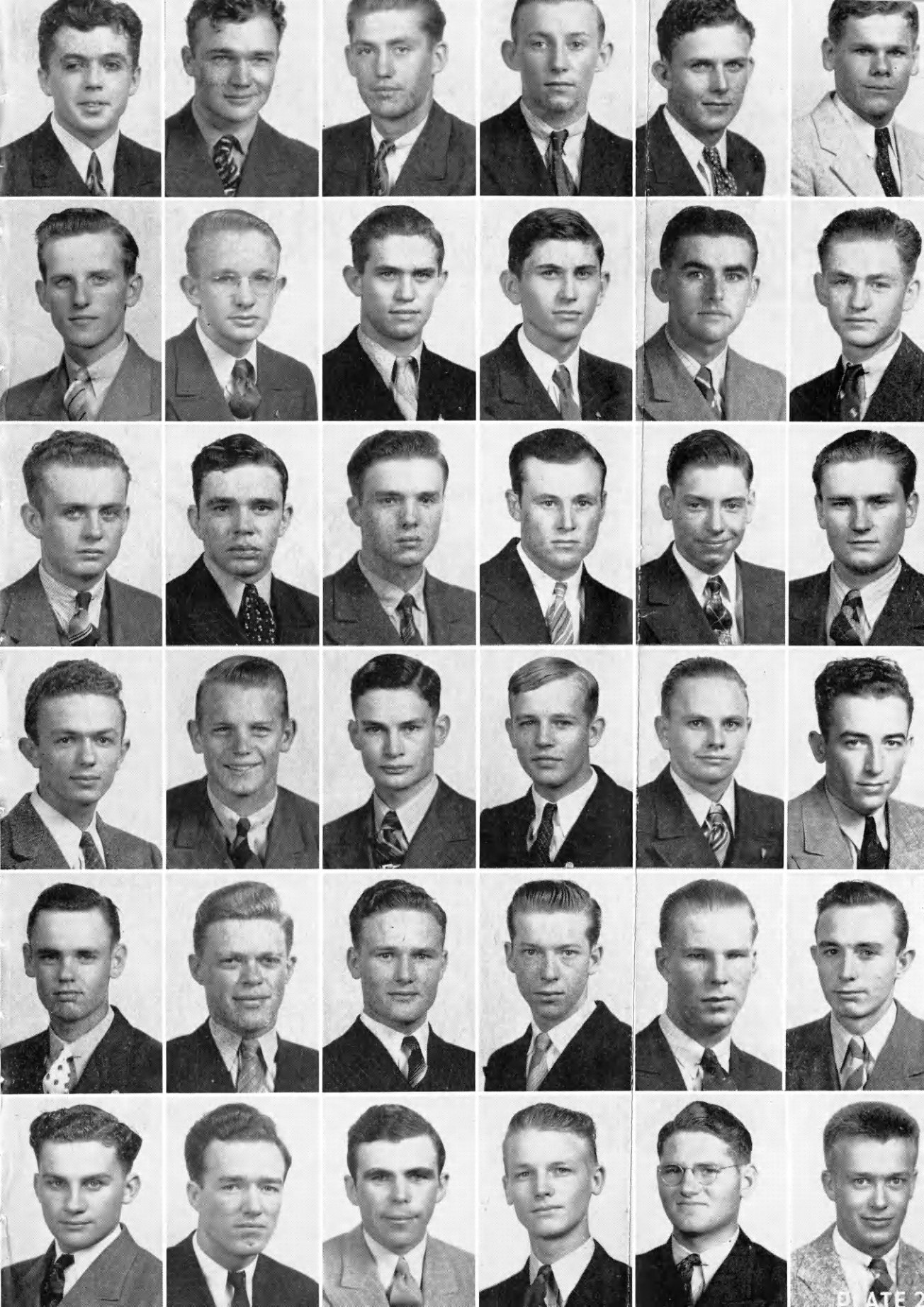
Orville J. Anderson.....	31	61
Samuel T. Anderson.....	32	62
Robert Arbutnot.....	32	50
Ralph E. Boehner.....	32	50
C. Bertil Danielson.....	32	61
Clayton C. David.....	32	54
Eugene Fair.....	32	61
John E. Fieser.....	32	54
Taylor L. Fitzgerald.....	32	62
Arthur Lloyd Francis.....	29	48
Hobart W. Frederick.....	33	52
Bertram W. Gardner.....	31	49
Wilbert W. Greer.....	33	51
Jack Haymaker.....	32	53
Howard M. Hughes.....	30	51
Herbert D. Johnson.....	32	52
Walter M. Keith.....	33	63
Milton L. Manuel.....	32	57
Melvin W. Marcoux.....	33	54
Ray Morrison.....	32	59
W. Dean Nelson.....	32	48
Robert K. Page.....	29	49
Harold E. Rall.....	33	53
Paul E. Sanford.....	29	51
Francis B. Shoup.....	31	48
Rollin M. Starosta.....	32	55
George L. Sundgren.....	30	53
Benjamin W. Tempero.....	29	51
Paul E. Thomas.....	29	53
Byron K. Wilcox.....	32	51
Mark F. Wilson.....	34	66

Rollin Parsons, '38, is employed in the department of land appraisement and use in the Federal Land Bank at Wichita. An operation for appendicitis during the summer completely changed the future outlook for Rollin. Instead of pursuing graduate work for a master's degree at the University of Wisconsin, he decided to take a position.

## A row of five black and white head-and-shoulders portraits of young men, likely from a mid-20th-century yearbook. Each man is wearing a dark suit jacket, a white collared shirt, and a patterned tie. From left to right: the first man has short, dark hair and a slight smile; the second has short, light-colored hair and a serious expression; the third has short, dark hair and a serious expression; the fourth has short, dark hair and a serious expression; the fifth has short, light-colored hair and a serious expression. The portraits are set against a plain, light background.

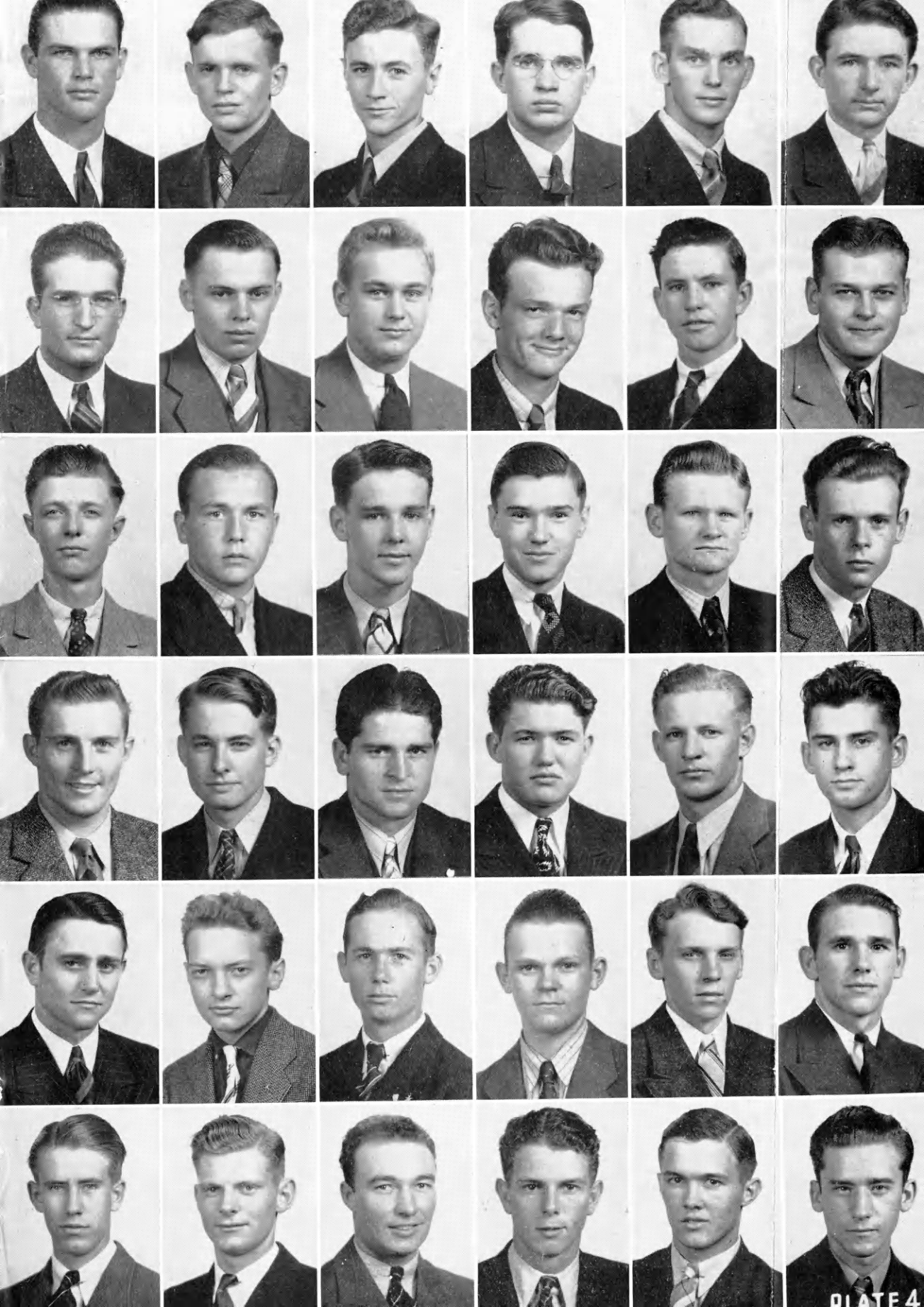


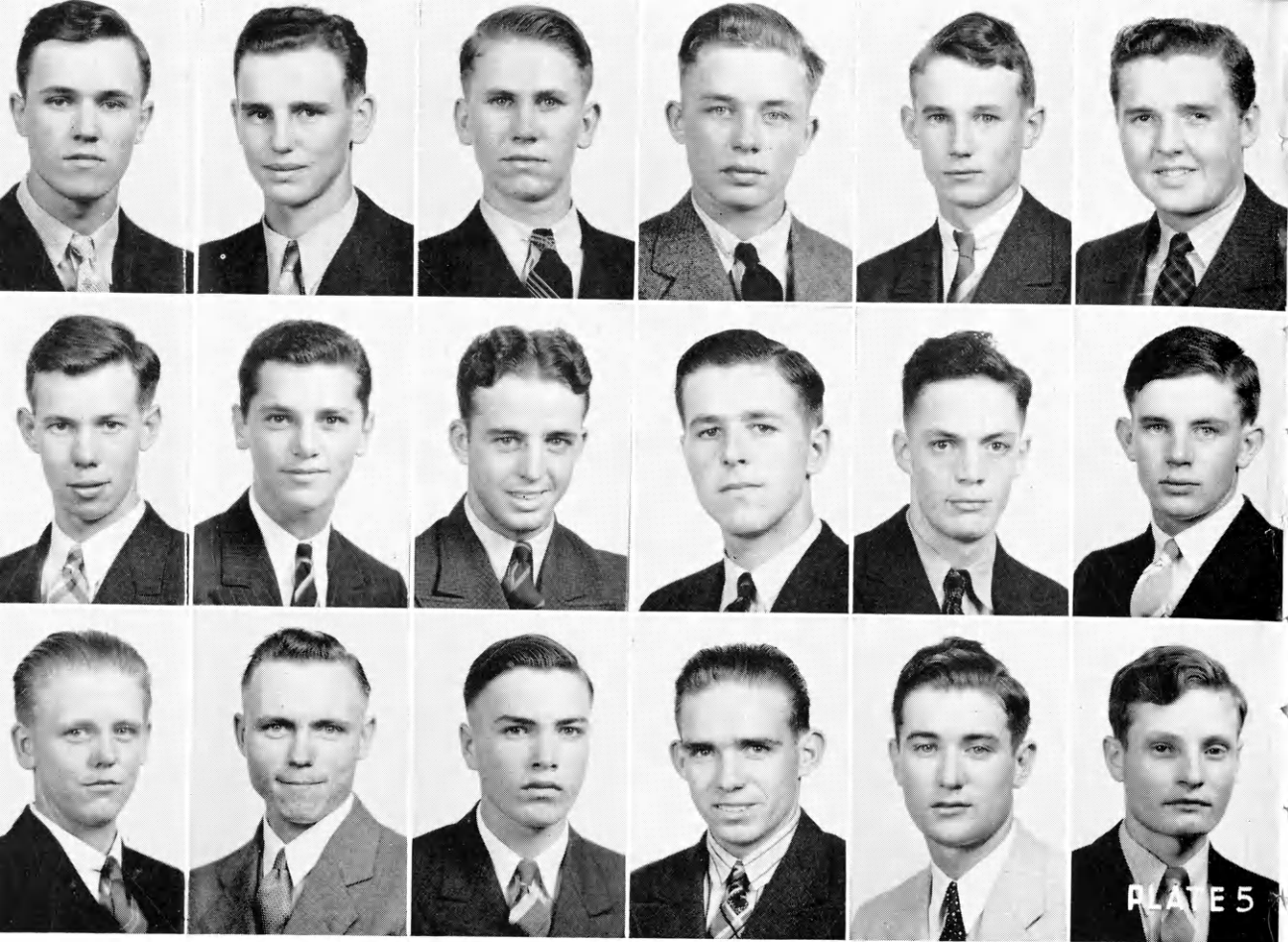












## Class of '42

On this and the preceding four pages are the pictures of 161 freshmen in the division of agriculture at the beginning of the first semester, 1938-39. How many of these young men are tagged to become members of the senior class of 1942?

Total number of freshmen in the division this fall is 176. Of these, 15 were freshmen a year ago, but attended college for one semester only. Number of freshmen in the division is 26 less than a year ago. Total enrolment in the division (all classes) is 671, an increase of nine over the total enrollment one year ago. The senior class, 132 in number, is larger by 23 than the senior class of last year.

### PLATE I

#### Top Row

MAYNARD L. ABRAHAM, Wayne  
M. EUGENE ADAMS, Osborne  
ROBERT H. ALEXANDER, Council Grove  
WILLIAM H. AVERY, Coldwater  
FLOYD A. BACON, Sylvan Grove

#### Second Row

RALPH E. BARKER, Douglass  
WILLIAM J. BASSLER, Valley Stream, N. Y.  
DONALD E. BERTHOLF, Spivey  
GEORGE BIRD III, Fajardo, Puerto Rico  
FLOYD H. BJURSTROM, Alma, Nebr.  
MYRON A. BOONE, Neal

#### Third Row

JAMES A. BOWER, Norton  
GORDON F. BOY, Raymond  
DARRELL R. BOZARTH, Liberal  
GILBERT BRANDA, Wilson  
ACTON R. BROWN, Sylvan Grove  
DALE E. BROWN, Manhattan

#### Fourth Row

MAURICE O. BURKE, Whitewater  
RICHARD L. CADWELL, JR., Marquette  
RONALD W. CAMPBELL, Cherryvale  
ROBERT W. CARAWAY, Shreveport, La.  
CLIFFORD E. CASE, Coldwater  
MAURICE E. CHASE, Effingham

#### Fifth Row

PAUL Q. CHRONISTER, Abilene  
CLIFFORD L. CLAAR, Rexford  
CHARLES E. CLARK, Paxico  
HENRY L. COMLEY, Wichita  
HARRY COWMAN, JR., Lost Springs  
GLEN T. CRAWFORD, Manhattan

#### Sixth Row

R. TIEMAN CROW, Independence, Mo.  
JOHN H. DARNELL, Los Angeles, Calif.  
WILLIAM P. DEAM, Palm Beach, Fla.  
CHARLES R. DEDRICK, Parker  
LEONARD A. DEETS, South Haven  
MORRIS J. DODRILL, Ottawa

## CLASS OF '42

### PLATE 2

#### Top Row

DONALD K. DUBOIS, Burlingame  
LEONARD L. EASTERDAY, Englewood  
NORMAN C. EATINGER, Raymond  
A. REX EHRSAM, Bern  
VICTOR EINSEL, Greensburg  
EDWARD H. ELLING, Manhattan

#### Second Row

RICHARD L. EVANS, JR., Hutchinson  
JACK B. FIELDS, Onaga  
RAYMOND E. FINCHAM, Waterville  
G. KEITH FISH, Neodesha  
MAX W. FLOYD, Ottawa  
CARL H. FRANCISCO, JR., Edna

#### Third Row

HAROLD W. FRASIER, Sharon Springs  
GEORGE H. FRITZ, Lake City  
DONALD W. GEORGE, Topeka  
FALCNOR L. GIFFORD, Haviland  
ELDON D. GLADOW, Alma  
OSCAR J. GLOTZBACH, Paxico

#### Fourth Row

MEYER B. GOLDFARB, Newark, N. J.  
LEONARD E. GORDON, Manhattan  
NORMAN J. GRIFFITH, Clayton  
ERNEST O. HARRIS, Havensville  
WILLIAM E. HARTMAN, Hoxie  
CHARLES E. HAYWOOD, Fowler

#### Fifth Row

VERNON L. HEITMAN, Dellvale  
ROBERT H. HELLENER, Wichita  
EUGENE C. HERSCHE, Bucyrus  
JACK HETER, Sterling  
KERMIT B. HOBIE, Tipton  
ORVILLE W. HUNDLEY, Leavenworth

#### Sixth Row

A. DEAN HUNT, Osborne  
DONALD M. HUNT, Kansas City, Mo.  
GEORGE N. INSKEEP, Manhattan  
O. CONRAD JACKSON, Elsmore  
BRUTUS L. JACOBS, Harper  
G. PRESTON JAMES, East Greenwich, R. I.

### PLATE 3

#### Top Row

ELDON M. JOHNSON, Canton  
JOHN B. JOHNSON, Saffordville  
MORRIS L. JOHNSON, Manhattan  
CHARLES O. JOHNSTON, Manhattan  
WALTER R. JOY, Hays  
DAVID E. KARNOWSKI, Paxico

#### Second Row

VERNON D. KEIM, Detroit  
WILLIAM G. KELLY, Hutchinson  
SCOTT W. KELSEY, Topeka  
MURRAY L. KINMAN, Wamego  
CARLTON M. KINZLER, Sturgis, Mich.  
WILBUR S. KRAISINGER, Timken

#### Third Row

CHARLES E. KRAUSE, Belleville  
THEODORE W. LEVIN, Agra  
JOHN L. LIBBY, Fostoria, Ohio  
HENRY R. LILLARD, Rossville  
MERLIN E. LINE, Sabetha  
ARNOLD E. LOHMEYER, Linn

#### Fourth Row

WILLIAM A. LYTLE, Wellsville  
ARLAN W. McCLURKIN, Clay Center  
DALE F. McCUNE, Stafford  
IVAN E. McDILL, Paola  
MARVIN W. McGUIRE, Onaga  
B. KEITH McNICOLE, Zenith

#### Fifth Row

FORREST E. MEARS, Eskridge  
CARROLL A. MOGGE, Goodland

C. LEHMAN MOHLER, Arkansas City  
KEITH F. MORBY, Manhattan  
LARRY L. MORROW, Liberty  
NEIL A. MORTON, Green

#### Sixth Row

JOSEPH W. MUDGE, Gridley  
HIRAM C. MUSSETT, Leavenworth  
WARREN B. NELSON, Manhattan  
CARROL B. NEWELL, Stafford  
LEE A. NINEMIRE, Wakeeney  
WILBURT G. NIXON, Manhattan

### PLATE 4

#### Top Row

OSCAR W. NORBY, Pratt  
ROBERT L. OSBORNE, Rexford  
CHARLES R. PALMER, Anness  
WILLIAM H. PATTERSON, Holton  
HAROLD E. PETERSON, Bridgeport  
J. RICHARD PETFORD, Saffordville

#### Second Row

CHARLES L. PFENNINGER, Nekoma  
ROGER N. PHILLIPS, Manhattan  
EARL R. POOL, Belleville, Ill.  
WILLIAM B. POOLE, Manhattan  
ARTHUR W. POPE, Durham  
WALTER H. PORTER, Council Grove

#### Third Row

ALLAN E. PRESTON, Baldwin  
NORBERT L. RAEMER, Herkimer  
EDWARD P. REDMOND, Marysville  
EDWARD A. REED, Lyons  
ROBERT W. RILEY, Emporia  
JOHN L. ROBERTSON, Nowata, Okla.

#### Fourth Row

RAYMOND F. ROEMER, Gove  
JOSEPH S. ROGERS, Horton  
RAYMOND R. ROKEY, Sabetha  
VERGIL E. SALTS, Mayetta  
HENRY F. SCHEUCH, Ellsworth  
RICHARD L. SHARP, Neodesha

#### Fifth Row

GLENN L. SHRIVER, Medicine Lodge  
KENNETH I. SINCLAIR, New Brunswick, N. J.  
ROBERT R. SINGLETON, Kansas City  
FLOYD W. SMITH, Shawnee  
DAN R. STANTON, Rushville, Mo.  
IVAN V. STEPHEN, Hill City

#### Sixth Row

HOMER A. STEVENS, Silver Lake  
KENNETH P. STOREY, Mulvane  
DELBERT G. TAYLOR, Meade  
ROY J. TEBB, JR., Morland  
MAX E. TIMMONS, Fredonia  
WILLIAM L. TURNER, Plevna

### PLATE 5

#### Top Row

CHARLEY R. VAUROCH, Oberlin  
CLYDE M. VENNEBERG, Havensville  
GEORGE E. VISSER, Riley  
EUGENE W. VOIGT, Basehor  
DEAN K. WECKMAN, Holton  
RICHARD G. WELLMAN, Sterling

#### Second Row

FRANCIS R. WEMPE, Frankfort  
GEORGE W. WENGER, Sabetha  
MARVIN L. WESTERMAN, Moundridge  
NORMAN V. WHITEHAIR, Abilene  
ROBERT E. WILLIAMS, JR., Rocky Ford, Colo.  
FRANK A. WILSON, Maplehill

#### Third Row

HARLAN C. WINGRAVE, Severy  
MILTON M. WOODRICK, Scott City  
GEORGE C. WREATH, Manhattan  
BEN C. YORK, Manhattan  
JACK S. YOUNG, Clearwater  
ROBERT O. YUNGHANS, Piper



## Scott Earns Degree

Kansas State welcomes back Dr. H. M. Scott of the Department of Poultry Husbandry. Dr. Scott returned last spring from the University of Illinois where he received his Doctor's degree. Dr. Scott left Kansas State in the fall of 1936 for Illinois university on a part-time assistantship. While there he coached the poultry judging teams and taught classes in Farm Poultry Production.

He also conducted research for the Agricultural Experiment Station on the physiology of egg formation, and the inheritance of resistance of disease. However, most of his research was done on his Doctor's thesis, "Physiology of Egg Size in the Fowl." Dr. Scott received a high rating and did outstanding work as a graduate student. His major fields were physiology and genetics.

Dr. Scott came here from Oregon State Agricultural College and received his master's degree from Kansas State in 1927. The following year he taught at North Dakota State College. In the fall of 1928 he returned here as an associate professor and remained until 1936 when he left to begin work on his Doctor's degree at Illinois university. At present he is teaching poultry classes and coaching the poultry judging team.

## Sears Club Grows

The Division of Agriculture welcomes to the campus again this year another group of Sears-Roebuck scholarship winners. Recently they have been identified on the campus by ample-sized yellow placards bearing the letters "S S C," being interpreted, "Sears Scholarship Club." Also, each student carried a huge Sears-Roebuck catalogue.

The "S S C" is now composed of 30 members. Out of the original 15 members of the club last year, all but four are back again this year as sophomores. However, once an "S S C" member, always a member. Besides, the four

missing charter members of the club hope and expect to return to College as soon as circumstances will permit.

New members of the club this year are: Maynard Abrahams, Wayne; Ronald Campbell, Cherryvale; Keith Fish, Neodesha; Donald George, Topeka; Eldon Gladow, Alma; Vernon Heitman, Norton; Conrad Jackson, Elsmore; Merlin Line, Sabetha; Oscar Norby, Pratt; Richard Petford, Saffordville; Edward Reed, Lyons; Robert Singleton, Rosedale; Floyd Smith, Shawnee; Dean Weckman, Holton; Robert Yungmans, Piper.

A creditable scholastic record in high school and outstanding agricultural accomplishment together with evidence of leadership ability are prerequisites to winning a Sears-Roebuck scholarship. These boys are of the material from which good students are made.

An article on another page tells of the \$200 scholarship awarded to Glenn Busset.

## Change of Personnel

Robert J. Eggert, Lincoln, Illinois, has been selected to fill the vacancy left by Homer Henney, Livestock Marketing Professor, who has accepted a position in Washington, D. C., with the Crop Insurance Corporation. Mr. Eggert received his B. S. from the University of Illinois in 1935 and his M. S. from the same institution in 1936. He has been at the University of Minnesota since 1936 working on his Doctor's Degree which he expects to complete next summer. He has chosen as his thesis "Cold Storage Lockers."

Mr. Eggert's title here is Assistant Professor in Agricultural Economics. Most of his time is being devoted to livestock marketing. He will, in addition to regular class work, conduct research on prices and marketing.

Ernest R. Ausherman, '38, a major in agricultural administration, is teaching vocational agriculture at the Mulvane High School in Wilson county.



# Apples

## Apples

## Apples

*By Their Fruits—*

*By*

Chas. Carter

**A** NEW method of propagating tree fruits has received some attention in recent years. This is a modified layering method by means of which the so-called "own rooted" trees are produced. Although seedling trees are now in general use for stocks, this new vegetative means of propagation may in part replace the old methods of grafting and budding because there is an insistent demand for something better.

Great variations are noted in the growth habits and productivity of our fruit trees within any given variety on seedling stocks. Horticultural experimenters are greatly handicapped by such wide variations. They contend that such variations can be greatly reduced by the production of "own rooted" trees. Perhaps another reason for the attempt to produce "own rooted" trees is to formulate a method whereby the ordinary back-yard fruit grower may

successfully propagate his own fruit trees.

Prof. R. J. Barnett of the Kansas Agricultural Experiment Station has supervised work on this new modified-layer method of propagation. Apple trees were used because they are Kansas' most important fruit. The methods of procedure were as follows:

Twenty-five one-year-old grafted apple trees were planted March 3, 1933, at distances of 5 to 10 feet. The varieties planted were Winesap, Jonathan, Grimes, Wealthy and Gano. The trees were set inclined at an angle of 60° from the horizontal and left to grow throughout the season.

The following spring (1934) the soil around each tree was excavated to a depth of six to eight inches. Each tree was then pulled over into a broad trench three inches deep. The main stems

(Continued on page 23)



Showing growth of sprouts and roots after tree has been flattened and skewed against ground by notched sticks, later covered with soil.

# Anaplasmosis Baffles Investigators

**D**URING the past ten years, evidence has continued to accumulate showing the widespread occurrence of anaplasmosis in cattle. It is probable that the disease has existed in the United States for the past thirty years, but has not been recognized.

Anaplasmosis was formerly described as a disease of tropical and semi-tropical countries. However, the disease is no longer confined entirely to the tropical regions or to the southern part of the United States, for it has gradually spread to the north, east and west and can be expected in any state of the United States. The latest reports of the disease have come from the state of Wyoming.

Anaplasmosis has been well known in the southeastern part of Kansas for the past ten years and is fast becoming a state-wide threat to the cattle industry. The morphological characteristics of the tissues of infected cattle have been studied and methods of transmission, cultivation, immunological and medicinal treatment have been investigated, but nothing definite in the way of a specific treatment of affected animals or a diagnostic agent has been found. The causative factor, however, is almost universally accepted to be a protozoan, *Anaplasma marginale*. Even that has not been ascertained as a fact.

Anaplasmosis was first observed in the United States in conjunction with Texas Fever of cattle about 1893, but was not recognized as a separate and distinct disease until experiment proved it so in 1910. It was first discovered in the state of Kansas in 1926.

From that time until the present, experiments have uncovered the prevalent characteristics of the disease and it has been found that anaplasmosis is essentially a disease of mature cattle. Febrile, that is feverish in character, it more often attacks the adult milk producing cow, causing a severe anemia and an alteration of the red blood corpuscles. Calves under one year of age are seldom affected by the malady and calves born to cows apparently recovered from anaplasmosis do not, as a

rule, carry the causative agent. Calves born normally from infected dams seem to acquire infection and subsequent immunity to the disease.

Depending upon the severity of the infection, the resistance of the animal and the ability of that animal to regenerate its red blood cells, anaplasmosis may be classified according to symptoms into four types: mild, peracute, acute and chronic.

The best method of control of anaplasmosis seems to be complete isolation of the infected animals. Extreme care has to be taken, for the disease can be transmitted mechanically, but calves, if taken from the infected dams immediately after birth and placed with a nurse cow, will usually be found to be immune from the disease. So, until present experiments are concluded, control measures alone can be practiced. No definitely dependable cure for anaplasmosis is known.

—Frank W. Farley, Jr., '39.

"Pleased to learn that Chilen's orchestra is billed for the Ag Barnwarmer dance November 5. That means the dance will not be a glorified "varsity." I have heard the band a number of times and the boys really have something. They are more fun than a barrel of monkeys. I hope to be back for the fun and the cider."

—Elmer Dawdy, '38.

Deane Seaton, '38, major in dairy husbandry, has returned to the home dairy farm in Abilene. It is for farm and dairy work that students are primarily trained at Kansas State.

Vernon Maresch, '38, is working for the Farm Security Corporation in Hays, rescuing farms and farmers about to be foreclosed.

Dave Page, '38, has an administrative position in his father's mill in Topeka. He received his degree in milling industry at the end of summer school.

# Poultry Congress Comes to States

**T**HE first World's Poultry Congress ever to be held in the United States will convene in Cleveland, Ohio, beginning July 28, 1939, and continue until August 7. Plans of committees are well under way for the event, and more than 38,200 memberships to the congress have already been sold.

That commercial interests are attracted by the event is attested to by the fact that in the first day contracts were opened, \$40,000 worth of booth space was purchased by companies manufacturing products related to the poultry industry. The various states will have individual booths, as will the foreign countries. Kansas will depict the progress made in the scientific study of poultry during recent years.

Kansas ranks eighth of the states in number of memberships sold to date. County committees, flock inspectors, and county agents are engaged in selling the memberships to any who may wish to attend the congress.

An illustrated news letter, which has been published by the Kansas Poultry Industry Committee, places the poultry industry under the spotlight on Kansas farms, and urges poultrymen to attend the congress. A resolution endorsed by Manhattan business men was recently handed to the Postmaster-General, James A. Farley, which urged adoption of a special World's Poultry Congress postage stamp.

The consumers' program of the congress is receiving much stress. Four model kitchens with transparent walls will be in operation, demonstrating methods of preparing and cooking eggs and poultry products. A "Food Palace" will display every known egg and poultry dish, including foreign favorites in egg and poultry preparations.

Poultry judging contests will be featured, with separate divisions for college students, F. F. A. members, 4-H Clubs, and other organizations.

Moving pictures, both technical and popular, will be a part of the program. Among the technical movies will be a film now being made at K. S. C. which shows the process of egg formation.

Various other sections of the exposition will include a live bird exhibit, youth programs, Hall of States and Nations, and programs of interest to all poultry producers and consumers.

—Clyde Mueller, '39.

## Attend Leadership Camp

From Georgia and Florida to Montana and Washington, from Maine and New Hampshire to Texas and New Mexico, and from all the states between, came the Youth Foundation delegates to the 25th anniversary of the beginning of the Founders' Christian Leadership Training Camp at Camp Miniwanca, Shelby, Michigan.

Herman Reitz, a senior in horticulture, was awarded the junior fellowship available only to junior students in agriculture at Kansas State. After spending two weeks at the Purina experiment farms in St. Louis, he journeyed on to the camp with 38 other juniors representing as many agricultural colleges of the United States.

"Where there is a will there is way," was demonstrated by George Cochran when he hitch-hiked to the camp, making the round trip on less than \$7. George is a sophomore in agriculture and was awarded the freshman fellowship to the leadership camp.

Walter Campbell, a junior in poultry husbandry, who last year attended the camp as a freshman from Kansas State, was awarded a fellowship again this year to represent the Collegiate 4-H Club. Walter traveled with the Kansas 4-H delegation and reports a splendid educational trip to Greenfield Village, at Dearborn, Michigan, also Niagara Falls, and returning by way of Pittsburgh and Louisville.

Walter Abmeyer, '38, an agronomy major, is county agent of Franklin county. His office is in Ottawa.

John Hyde, '38, returned to his father's farm at Augusta. His father's death occurred last winter.

# Pass the Molasses Please

*Glenn Busset tells of  
sorghum-making  
time in Kansas*

**I**N the little village where I live in southeastern Kansas, the molasses season is over. Jugs that have been empty for several months have been brought out of cellars, washed, filled with molasses, and returned to their respective places in the cellar, from which they will emerge this winter to grace many a breakfast table, accompanied by "flapjacks," or hot biscuits. Sorghum syrup may be the word that our city cousins use when they speak of this delicious extract of cane, but by the farmers and villagers where it is made, it is referred to simply as "molasses." And the "mo'," the better.

The first step in making molasses involves stripping, heading, and cutting the cane or sorghum. Stripping is the method of removing the leaves, a task usually delegated to small boys. I never grew up. My job was always to help with the stripping. Laths may be used to strip all the leaves from the cane, but as an inducement for more rapid work, long wooden swords are made for each boy to use, for what boy would not rather go slashing down a row with a sword rather than a common lath?

The first frost date is the only deadline. Cane must be stripped and cut before the first killing frost. The cane is cut by hand, being careful to cut it near the ground, as much of the juice is in the heavy part of the stalk. The heads are cut off, and the cane is hauled to the molasses mill, where it is piled beside the heavy rollers to be crushed.

The first worker at the mill in the morning is a small Negro boy, who acts as a general roustabout, handy-man, and molasses sampler. "Jetsam," as he is known to the village, arrives at five o'clock and builds a fire under the boiler pan. He feeds and harnesses the team of mules that is used to turn the large steel rollers. The mules are

hitched to the long sweep that rolls the rollers, and Jetsam's command, "Go 'long, you," they start slowly around their monotonous circle. As the rollers turn, Jetsam takes four stalks of cane at a time and thrusts them between the closely set rollers. The flattened stalks come out the other side, and the juice runs in tiny trickles into a large, wooden barrel. When the "tender" comes out to start his day, a full barrel of juice is ready for him, and the fire is bubbling the water in the pans. Jetsam can now rest for a few minutes, so he spends the time feeding the mules on "pummies," as the crushed cane is called, at the same time admonishing them on the evils of jerking cane stalks from a nearby pile.

The molasses pan deserves a detailed description. About 14 feet long and four feet wide, the pan is divided into seven compartments that are connected at alternate sides by removable stop gates. This arrangement forces the juice to make the longest possible trip as it zigzags its way across the pan.

The pure juice is ladled in at the front of the pan, where the heat is most intense. The purpose is to boil the water out, without burning or damaging the natural sugars in the juice. For this reason the boiling juice is finally shunted through the little gates to cooler compartments, where it will boil slowly. More fresh juice is ladled in at the front of the pan. The pan is tended by three or more girls, known as "skimmer girls." Their duty is to shunt the juice down the compartments as needed, and to skim off the green residue or scum that boils out and floats on top of the hot molasses.

It is a delicate art to know just when the molasses has cooked enough, and is ready to be drawn off. The finished product is drawn into a five-gallon can, covered, and set to cool. Many of the



## MAKING MOLASSES

old farmers and villagers are on hand when a fresh "batch" is drawn off, to act as connoisseurs, by tasting and by observing the color. Arguments often occur between these octogenarians as to whether the "lasses" should have been cooked two minutes longer, or if a slower fire was needed.

These arguments are forgotten on Saturday nights, however, for that is the time set for a general social gathering. The last pan of juice is boiled much longer than regular molasses is boiled. At last, to the general delight and anticipation of the younger members of both sexes present, there is produced a dark brown, bubbling mass of that sweet, sticky, indigestible, but delicious country concoction known as taffy. As soon as it cools down enough, boys and girls begin "pulling" taffy, until they have a long, honey-colored rope of

candy. Perhaps later there may be group singing. Finally, near midnight all the families start for home, happy, sticky with molasses, and with the sweet tooth fully satisfied.

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W. H. Pine, Assistant Professor in Agricultural Economics, has been granted a leave from October 1, 1938, to June 30, 1939, for the purpose of taking graduate study to apply on a Doctor's Degree. He will assume his studies at the University of Chicago where he has been granted a fellowship. He will resume his former position here after his nine months of study.

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Clyde Reed, '38, is assistant county agent at Erie, Neosho county. He is a frequent visitor to the campus.

## Our Girls Go To Town



Representing Kansas State College in two judging contests, the American Royal contest in Kansas City and the Midwest contest in Wichita, the girls meat judging team of 1937-38 won first place in both contests making it the fourth consecutive year Kansas State College teams have done this.

From left to right, May Young, Cheney, (alt.) on the Kansas City team; Prof. D. L. Mackintosh, coach; Abby Marlatt, Manhattan; Mary Jorgenson, Manhattan; Dorothy Olson, Oberlin, placing first in identification at Wichita with an all time record score of 685 points out of a possible 700; Hazel Frager, Wamego, (alt.) on the Wichita team.

# Boys' Visit to College Profitable

**T**HE Division of Agriculture was host to more than 700 guests during the Eighteenth Annual High School Judging Contests held at Manhattan, May 2 and 3. The contestants included the most skillful students of vocational agriculture from 84 widely scattered Kansas high schools. Each boy won the right to represent his school by showing greater achievement than his fellow students.

Contests were held in dairy, animal husbandry, poultry, and farm crops.

Curtis Mathias of Ottawa, a member of the second place team, was high ranking individual.

The Newton team, coached by R. M. Karns, maintained the reputation of their school by winning the crops division for the sixth consecutive year.

The public speaking contest offered competition in a different type of achievement. Eighteen schools were represented with first place being awarded to Raymond E. Wolfe, of Solomon.



The high-scoring Moundridge team. From left to right: Harvey Goering; E. H. Johnson, coach; Victor Goering; Walter Stucky; Eldon Flickner. Right: Curtis Mathias, high-ranking individual among 700 contestants.

These contests are enjoyed by the boys as competitive events and are appreciated by vocational teachers as a means of motivating greater efforts on the part of the students. The contests are having a marked effect in improving the content of vocational agriculture courses, and raising the standard of achievement obtained.

The team from Moundridge, coached by Earl Johnson, won the President's prize awarded to the high-scoring team in the four contests in agriculture. The Moundridge boys placed second in dairy, third in animal husbandry, sixth in poultry and eighth in the crops contest, and was the only school to place in the high ten of all four contests.

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Other F. F. A. activities were the awarding of the State Farmer degree to 60 Future Farmers, the naming of the ten best chapters and the election of officers. Officers for the coming year are:

Walter Porter, Council Grove, president  
Eldon Stein, Smith Center, vice president  
Robert Randle, Wakefield, reporter  
Howard Wagner, St. Francis, secretary  
Robert Singleton, Shawnee Mission, treasurer

The final event of the two days was the banquet given by the Manhattan Chamber of Commerce at the Community House. With Professor D. L. Mackintosh in charge of the food, the Solomon F. F. A. orchestra to entertain, and the contest results to be announced, all enjoyed the final evening.

## Hoover Wins Medal

Mr. Leo M. Hoover has been awarded the Alpha Zeta medal for making the highest scholarship record among freshmen in the Division of Agriculture during the academic year, 1937-38.



LEO M. HOOVER

Mr. Hoover's home is at Greenleaf, Kansas, Washington county, located in the north-central part of Kansas next to the Nebraska line. After completing common school and attending high school at Greenleaf, he also attended St. Xavier's High School at Junction City and later Sacred Heart Academy, Manhattan. He had taught in rural schools for six years before entering Kansas State as a summer school student in June of 1937.

Since matriculating at Kansas State, Mr. Hoover has been continuously in College, including the summer session of 1938. Although he was classified as a freshman in the fall of 1937, he had earned a total of 55 credit hours by the beginning of the first semester, 1938,

and is now entitled to junior classification.

Among freshman students in the Division of Agriculture, Leo ranked highest in the aptitude tests in the fall of 1937. In the spring of 1938, he ranked highest among students of the division in the health knowledge tests given by the Department of Student Health. He is participating in such extra-curricular activities as his studies and employment will permit. He has part-time employment in the department of agricultural economics where he is majoring and also works at one of the local hospitals.

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## Layering Apple Trees

(Continued from page 17)

and soft laterals were tipped lightly to remove soft wood. All parts of the stems and branches were flattened against the ground and held in that position by means of notched sticks and U-shaped pieces of stiff galvanized wire set straddle of the stems. If any part of a tree could not be flattened, it was cut off.

The layered trees were left uncovered until young sprouts had started and had reached an average height of five inches at which time the trees were divided into two plots. Fine soil was shoveled around the trees of one plot. A mixture of soil and peat was shoveled around the trees of the other plot. This process was repeated at intervals until the layered stems were covered to a depth of about six inches which resulted in a mound three inches above the ground level. After this they required no further attention other than cultivation and insect protection until the dormant season in the fall of 1934.

When the leaves were off and the wood was thoroughly dormant, the covering materials were removed and the rooted shoots were detached from the parent plants (see fig. 1). Care was taken not to lift the layered trees from their position as they were left to produce successive crops of "own rooted" trees. The rooted shoots were heeled

## LAYERING APPLE TREES

in to remain until spring when they were set in the nursery row.

The layered trees were left completely uncovered until the following spring, when the same routine was repeated. Care was taken to see that the layered trees were again flat on the ground.

The objects for conducting this experiment were twofold: (1) To discover whether the varieties of apples grown on a commercial scale in Kansas can be propagated by the layer method. (2) If they can be so propagated, to discover the ways in which such trees differ from the same varieties propagated by grafting or budding.

That most varieties of apples can be successfully propagated by the layer method seems to have been proved. "Only time can tell," however, whether there is any difference between fruit of layered trees and fruit of budded or grafted trees. Reports from other stations seem to indicate that there are great variations even between "own rooted" trees.

Apples are perhaps easier to layer than stone fruits because they produce adventitious roots more readily. If properly handled, most trees can be layered annually over a period of several years. The production and removal of sprouts is analogous to heavy annual pruning.

The most vigorous shoots did not develop as good root systems as those having only fair to medium vigor. Variations within each variety were from shoots having no roots, to those as abundantly rooted as are one-year nursery trees. There were marked differences in the number of roots developed by the sprouts of the five varieties. Gano developed the best root system followed by Wealthy, Grimes, Jonathan and Winesap. The number of shoots developed per layered tree averaged from eight for Wealthy to 24 for Grimes.

"Although this experiment has not brought forth any startling facts, it will aid in solving some of the many problems in agriculture," said Prof. Barnett. "By such contributions we are

able to accumulate facts upon which scientific agriculture is based."

## Busset to Go to Chicago

Glenn Busset, sophomore in agricultural administration, has been selected by a committee of department heads as the winner of the Sears-Roebuck sophomore scholarship in agriculture. This selection was made among the 15 boys who received freshman Sears-Roebuck scholarships in 1937. The scholarship pays \$200 and the winner has an opportunity to compete for a \$500 scholarship for 1939-40.

Basis of selection was made on scholarship, personality, extra-curricular activities, business ability and thrift. Although some of the boys had better grades than Glenn had, his business ability, thrift, and determination convinced the committee that he was really serious about getting an education.

Glenn graduated from Westphalia High School in 1932, but for financial reasons was unable to attend college right away. His spare time was devoted to 4-H Club work and community leadership. After winning a freshman Sears-Roebuck scholarship in 1937, he was able to begin attending college that fall. The sophomore scholarship places him one step nearer his goal.

Next summer, Glenn will go to Chicago, where he will compete with sophomore winners from 16 other colleges in the south and middle west, for a \$500 scholarship award offered by the Sears-Roebuck Agricultural Foundation. He has a good chance of winning the \$500 scholarship.

Gordon Wiltse, '38, is county agent in Miami county. His office is in Paola.

"I hear you have put it over and that Chilen's band will play for the barn dance. My promise still goes. I'll come back if I can possibly get away because I know this band will furnish entertainment as well as good dance music."

—Waldo Poovey, '38.



# From Chicks to Checks

## *Hatching Production Income*

**T**HE Poultry Industry ranks fourth as one of the major sources of farm income in Kansas, being preceded by crop sales, livestock receipts, and dairy product sales. Poultry and eggs are second in importance as a source of home used products. For the year 1935, figures from farm bureau-farm management associations show that the average family of 4.2 persons consumed poultry and eggs valued at \$65. As the farm poultry enterprise is a major source of income, farmers are always striving for better management practices to increase that income.

An important factor in obtaining the largest possible income from farm poultry, after the problem of the breed has been decided, and after the feeding and housing, etc., have been taken care of, is the time of year the chicks are hatched. Farmers often ask this question: When is the best time to hatch chicks so that maximum production and income may be realized from them?

In general, it may be stated that the most satisfactory time to hatch Leghorn chicks is in April, preferably between the 10th and 15th. Leghorns require five to six months to mature. They will consume 27 to 30 lbs. of feed during their growing period. They should weigh  $2\frac{3}{4}$  lbs. at the end of that time.

Chicks of the heavy breeds should be hatched a month earlier as they require about a month longer to mature. They will require 10% more feed than Leghorns and it will take at least 25 to 30 weeks for them to reach an average size of 4 to 5 lbs.

Two advantages of hatching Leghorn chicks in April are: First, the chicks will be large enough to range when the grasses are just coming up, the time at which their nutritive value is highest. Second, the chicks are able to make a rapid vigorous growth before the summer heat, absence of green feed, and the prevalence of soil-borne parasites, retard their growth.

If the chicks are hatched too early they will mature in the summer, lay a few eggs, then possibly go into a fall molt, which will stop their production for 6 to 8 weeks and thus materially reduce the egg income just when it should be highest.

If they are hatched too late, their rate of growth is apt to be retarded, due to the summer heat, absence of green feed, and the presence of soil-borne parasites. Because of slow growth in late hatched chicks egg production is likewise retarded and likely will not be at a peak when prices are highest, in the fall.

Experimental work on "Hatching Dates in Relation to Poultry Profits" was carried on at Kansas State College in the years 1934 to 1936. Results of the first year showed that the chicks hatched in April gave the greatest profit above feed cost. In the second year, chicks hatched in February returned the largest profit. The cost of feed, price received for the eggs, mortality, and weather conditions have a decided influence on the results in any one year. However, it may be stated that, in general, the month of April is the best time to hatch Leghorn chicks if the largest production and income are to be obtained.—J. F. Mugglestone, '39.

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"Congratulations on procuring Children's band for the Ag Barnwarmer. I'll guarantee the Ag bunch will have the most hilarious time they have had in many a moon at the barn dance."

—Eugene Harris, '38.

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Richard Patton, '38, is teaching vocational agriculture at Miltonvale High School in Cloud county. How dignified he seems since he has become "professor."

# Critical Period of Corn and Kafir in Kansas

**C**ORN and kafir are two very important crops in Kansas, from the standpoint of economic importance. Much work has been done, in the past few years, to determine the influence of environmental factors on the yield of these two crops. Rainfall and temperature are no doubt the most important in determining the total yield. It is the purpose of this article to discuss the rainfall factor.

Rainfall is very essential in the production of high crop yields. It is not only important that we have a normal annual rainfall, but it is also important that we receive rainfall during different periods of the growing season.

In a recent study of correlation data<sup>1</sup> made in 15 Kansas counties it is evident that corn and kafir both have important critical periods when rainfall is especially needed. It is also evident that these periods vary for different parts of the state and also somewhat for the two crops. The correlation coefficient used in this article is a figure expressing the degree of relationship between the acre yield of the crop and the rainfall in that particular period.

If the figure is near 1.0 it means that there is a very close relationship and if it is near 0.0 there is little or no relationship. Below is given the positive correlation coefficients for the month of July.

Table 1. Correlation coefficients of corn and kafir yields to rainfall for July in some eastern Kansas counties, all positive.<sup>1</sup>

County	Corn	Kafir
Franklin	.46	.53
Jackson	.63	.55
Montgomery	.36	.45
Lyon	.39	.65

Table 2. Correlation coefficients of corn and kafir yields to rainfall for July in some central Kansas counties, all positive.<sup>1</sup>

County	Corn	Kafir
Sedgwick	.52	.46
McPherson	.55	.48
Ottawa	.71	.71
Smith	.26	.49

Table 3. Correlation coefficients of corn and kafir yields to rainfall for July in some western Kansas counties, all positive.<sup>1</sup>

County	Corn	Kafir
Cheyenne	.37	.25
Ford	.50	.61
Ellis	.61	.30
Morton	.15	.37

A correlation for the July rainfall was not made for the entire 15 counties, but it is evident from those studies that the rainfall during July is very important. Our corn and kafir crops are highly dependent on the weather conditions prevailing during the month of July, and especially is this true of rainfall.

Breaking the months of July and August into shorter periods and making a more detailed study, we find more important trends. Below are the positive correlation coefficients found for the 10- and 20-day periods in typical eastern Kansas counties, and typical western Kansas counties.

Table 4. Correlation coefficients for corn and kafir yields to rainfall for 10- and 20-day periods for Lyon county, eastern Kansas, all positive.

Period	Corn	Kafir
Ten-day periods		
July 1-10	.11	.11
July 11-20	.60	.19
July 21-30	.51	.54
July 31-Aug. 9	.53	.41
Aug. 10-19	.46	.27
Aug. 20-29	.22	.15
Twenty-day periods		
July 1-20	.40	.33
July 11-31	.77	.72
July 21-Aug. 9	.73	.62
July 31-Aug. 19	.57	.39

Table 5. Correlation coefficients of corn and kafir yields to rainfall for 10- and 20-day periods for Ford county, western Kansas, all positive excepting for Aug. 20-29.<sup>1</sup>

Period	Corn	Kafir
Ten-day periods		
July 1-10	.47	.38
July 11-20	.31	.24
July 21-30	.28	.41
July 31-Aug. 9	.67	.47
Aug. 10-19	.30	.17
Aug. 20-29	-.35	-.04

## CRITICAL PERIOD FOR CORN

### Twenty-day periods

July 1-20	.47	.43
July 11-30	.42	.53
July 21-Aug. 9	.61	.58
July 31-Aug. 19	.66	.41

1. Data used were supplied by Dr. H. H. Laude, Agronomist.

In studying the preceding figures, it is interesting to note that the critical period is somewhat earlier in the eastern county than in the western. This also holds true for the other counties in their respective regions.

The critical period for corn in Lyon county seems to be from July 11-20, where we get a correlation of  $+ .60$ , but in taking the 20-day period from July 11-31, we get a correlation of  $+ .77$  so no doubt rainfall is very essential during all of the last 20 days in July. The reason the 10-day period, July 11-20, correlates much higher than the others, is due, probably, to the fact that this is during the tasseling period of the corn, and is one of the most critical periods in the life of corn plants.

The most important 10-day period for kafir in Lyon county is July 21-30, when we get a correlation of  $+ .54$  and the most important 20-day period, July 11-31 with a correlation of  $+ .72$ .

The critical period in kafir seems to be the heading stage, which appears slightly later than the tasseling stage in corn in most counties. Therefore, the 10-day period of highest correlation for kafir in Lyon county is somewhat later than the period for corn. However, the period just before heading is also very important as shown by the 20-day correlations.

In reviewing the figures for Ford county (western Kansas), we find that the most critical periods for corn appear somewhat later, being July 31-Aug. 9, for the 10-day period, and for the 20-day period, July 31-Aug. 19.

For kafir the most important 10-day period is July 31-Aug. 9. and the 20-day period July 21-Aug. 9.

Since the length of the average growing season in Ford county is approximately 10 to 14 days shorter than the length of the average growing season in Lyon county, it seems logical to expect that the corn and kafir are planted

later in Ford county, hence the critical period in each case is reached somewhat later.

Hence, rainfall is a very important environmental factor. Since not much can be done in controlling the rainfall factor, we look for a better way. Our best hope for a solution to the problem lies in the development of new varieties and strains with a somewhat different rate of growth development so that the critical stage is reached at a more satisfactory period than that of our present varieties.

Also we might modify the situation by the date of planting.

—B. E. Soderblom, '39.

## Student Judging Contests

Student judging contests are held annually late in the second semester. Contests are divided into divisions according to the training students have received in that particular line. Contests are in crops judging, dairy judging and stock judging. This fall for the first time students are holding a poultry judging contest. As many as 300 students participate.

Scholarships, trophies, cream separators, electric clippers, gold medals, magazine subscriptions, cash, and many other valuable awards have been given to winners in former years. Worth-while awards will be given again next spring. Many students begin laying their plans early to enter one or more of these contests. The training is valuable. The awards are not to be overlooked. Participation is looked upon as a splendid extra-curricular activity.

"I think the management of the Barnwarmer did well to book Chilen's band for the dance. Their programs are always packed with entertainment. I am sure our students will enjoy them."

—Dean L. E. Call.

Dorman Becker, '38, is working for the Farm Security Corporation in Burlington. Dorman is an animal husbandman working more intimately with land problems.



# Cash Crop for Southeastern Kansas

FROM 63,500 bushels of flax produced in Kansas in 1873 to more than 2,000,000 bushels in 1890 and then back to an average of about 240,000 bushels for the ten years ending in 1936, gives some hint of the tremendous fluctuations in flax production in Kansas since its introduction into the state something over 60 years ago.

The tendency has been toward a gradual decline in acreage since the World War. Fair prices for wheat and satisfactory yields, with the exception of the drouth years, have turned many former flax producers to wheat producers or at least have influenced them to reduce their acreage of flax.

Then, too, there has been the prevalent misunderstanding to the effect that "flax is hard on the soil." That is not true. Flax is no harder on land than any other small grain crop.

Experiments in southeastern Kansas have definitely shown that flax requires less phosphorus, less calcium, less potassium, and only slightly more nitrogen than an average crop of oats or wheat.

Flax leaves the soil in excellent physical condition. In several tests, corn produced considerably more when it followed flax in rotation than the corn produced when it followed wheat in rotation.

Flax yields were not profitably increased when phosphate, lime, potassium and commercial nitrogenous fertilizers were applied directly to the crop.

Applications of manure did result in increased yields. But best results were obtained when flax followed a legume in rotation. Because of the large amounts of weed seed usually found in barnyard manure, the manure should have been applied two or more years in advance of the flax crop. Because the flax plant is sparsely foliated, it does not produce well in competition with weeds.

Flax is best adapted to the heavy, cold soils of southeastern Kansas where a fair abundance of rainfall in

normal years provides ample moisture for the crop.

Linn, Allen, Anderson, Wilson, Neosho and Bourbon counties are leaders in flax production. The whole region south of the Kaw and east of the Flint Hills produces good flax crops. Improved cultural methods and adapted varieties may extend the "flax belt" slightly farther west.

Flax, like other small-seeded crops, requires a firm, compact seed bed with sufficient moisture for quick germination and continued growth after germination. If the seed bed is too loose or too dry some of the seed will not germinate or will perish soon after germination.

Following soybeans, only little preparatory tillage is needed if the land is clean. A light disking in the spring seems to result in slightly higher yields of flax than plowing in December. In the preparation of corn or kafir land, fall plowing is superior to spring disking. Summer or fall plowing is superior to fall or winter plowing because the ground has more time to settle during the winter.

Another important factor in the successful production of any crop is the selection of an adapted variety. A variety must be adapted to soil, temperatures, rainfall and must be disease resistant. In addition, the yield and the quality of the flax seed is highly important.

Flax is necessarily a cash crop produced for the oil in the seed. Whole flax seed is of limited value as feed. Oats straw is regarded as a better rough feed than flax straw.

Among the leading varieties recommended for Kansas, Linota is perhaps the leader. It is a heavy producer of high quality seed, resistant to wilt, somewhat resistant to rust and does not easily lodge.

Redwing resembles Linota in many respects. However, it does not yield as consistently as Linota. Redwing matures earlier than most other varieties.

Bison, a large-seeded variety, is ex-

ceptionally resistant to rust and wilt. Because of its lower yields, lower quality, and tendency to lodge, it should be replaced by Linota in most cases.

The general outlook at the present time is favorable for the flax producer. Although flax will never equal wheat or sorghums in importance in Kansas, most farmers in southeast Kansas could raise it profitably. Flax is adapted to a cool, moist climate and should be planted soon after oats. Tight, heavy soils are best adapted for flax, and require no commercial fertilizer as a general rule.—John Dean, '40.

## Combines Follow Harvest

Here is another way to see the country. Ralph Metcalf, Morris County, Kansas, last spring bought five complete combine outfits including a tractor for each combine.

Beginning in Texas the first week in June with all five combines, he harvested approximately 4,000 acres. By that time harvest was nearly over in that part of Texas. The outfits were moved into Oklahoma in time to catch up with harvest there and again hundreds of acres were harvested and threshed. Three trucks accompanied the outfits and were kept busy hauling grain to market from the combines. The trucks had been paid for before they pulled out of Oklahoma.

Another stop was made in Kansas near Council Grove and more wheat combined. Next jump was into the good wheat section of Nebraska. From there it was necessary to move into Wyoming to catch up again with ripening grain. That was in September and the combines caught a few snowflakes before they were trailed into Montana. Following the harvest across that far-flung state, the flotilla of "mechanized harvest hands" pulled up within four miles of the Canadian border at the first of October. Reports are it was a profitable venture.

D. E. Lewis, '10, is at De Queen, Ark., where he is a horticulturist.

## Clubs Open to Students

Students in the Division of Agriculture and new this year on the campus are asking whether or not it is necessary to await an invitation to join any of the seven departmental clubs.

Probably these clubs have been a little delinquent in not making that point clear through the medium of posters that might well have been placed on the bulletin boards of Waters Hall.

No invitation is necessary to join any one of these democratic departmental clubs. No element of exclusiveness rules in the selection of membership. One's interest in the club and the department it represents is the only prerequisite.

The Klod and Kernel Klub meets the second and fourth Tuesdays of each month, Ag. 252.

Agricultural Economics Club meets the first and third Tuesdays of each month, Ag. 331.

Alpha Mu Club (milling) meets the second Monday of each month, meeting place to be announced each time.

Block and Bridle meets the first and third Tuesdays, Ag. 55.

Dairy Club meets the first and third Tuesdays, Ag. 136.

Horticultural Club meets the first and third Mondays, H 55.

Poultry Club meets with the poultry seminar group each Tuesday, 8th hr., Ag. 231.

Freshmen and other students who desire to have a record of engaging in extra-curricular activities should begin making decisions as to departments in which they may major and join the clubs representing those departments. Extra-curricular activities and evidence of leadership ability are important items in any student's college career.

Prof. A. L. Clapp, '14, has resumed his work in the Department of Agronomy, Kansas State College, after a sabbatical leave to the University of Minnesota where he was working toward his doctor's degree.

## Aggies Take Health Test

From the Department of Student Health comes the amazing information that we don't have enough general knowledge to protect ourselves from common diseases.

Results of the health test conducted last March, 1938, by the student health department revealed some pertinent facts about general health ideas. Dr. Husband and his staff were surprised at the evident misinformation and lack of knowledge concerning simple health measures. For instance, several students thought that a person with a strong, healthy body need not be vaccinated for protection against small-pox or typhoid fever. So many false notions about health were prevalent that the average grades in the test were quite low. Judged from an academic standpoint, very few of the students would have made passing grades.

Of the 175 agriculture students that took the test, the 43 freshmen who represented their class made the lowest grades in the college—58 percent. However, the results of the test show that a freshman in agriculture improves rapidly in general health knowledge in his first year at college, making over a

7 percent gain. Seniors in agriculture show a gain of 15 percent over the freshmen, the largest gain made by any division in the college. This clearly indicates that students do pick up something at college, besides the courses they take.

Highest grades were made by the juniors in veterinary medicine, closely followed by the seniors in home economics. Both of these divisions offer courses either in medicine or in general health. It is interesting to note that the students that made the highest grades on the health test, also, regardless of division, have excellent scholastic records.

Much can be said and little done about the general ignorance of health knowledge that these tests have revealed, but Dr. Husband and his corps of efficient co-workers acted at once. A course in preventive medicine and public health, taught by Dr. Husband and staff, was opened for the first time this fall. The course deals with communicable diseases and their control, stressing healthful living for prevention of disease and intelligent care of the health. Twenty-six students are taking the course this first semester, 1938.

—G. B.

## Prizes Went to These Students



Winners student crops judging contest, second semester, 1937-38. See page 3 for other winners.

Left to right: Top row—Ray E. Cudney, Fresh.; Carl Claassen, Sr.; H. Earl Molzen, Jr.; L. Eugene Watson, Fresh. Bottom row—James F. Booth, 632, Soph.; Philip T. Allen, Jr.; Newell C. Melcher, Fresh.; Paul E. Smith, Fresh.; James R. Peddicord, Soph.



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