Lion on the loose!

Zoo Curator Clyde Gordon finds experience is the best teacher—"in handling big cats"...and in choosing a cigarette, too!

_While moving two lions into a new cage at the zoo...

Fawsana's on her way—_but it looks like trouble with Sultana!

_Sultana leads through the cage door—crashes through the runway fence!

Experience is the best teacher*

Long experience has taught Clyde Gordon never to show fear to an animal. He stands his ground...speaking softly, insistently...while diverting her attention with broom handle.

* True, too, in choosing a cigarette! With smoker after smoker who tried and compared—Camels are the "Choice of Experience!"

Run, Chief!

No—that's the worst thing I could do!

That was close, Chief, but you sure handled things right!...have a camel!

Thanks...experience comes in handy—whether you're handling animals or choosing a cigarette! That's why I smoke Camels!

Let your "T-Zone" tell you why!

T for Taste...T for Throat...

...that's your growing ground for any cigarette. See if Camels don't suit your "T-Zone" to a "T."

Zoo Curator Clyde Gordon says:

_I've learned from experience that mild, full-flavored Camels suit me to a 'T'!_

Clyde Gordon

General Curator and Director
Staten Island Zoo

According to a Nationwide survey:

More doctors smoke Camels than any other cigarette

When 113,597 doctors were asked by three independent research organizations to name the cigarette they smoked, more doctors named Camel than any other brand!
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Irrigation Opens New Methods Of Farming for South Carolina

Mother Nature, commissioned by the Master Planner as custodian of supplies for all basic agrarian enterprises, often distributes supplies to her wards lavishly but in such a way as to bring about later hardships. A prime example of this paradox is often found in a normally humid climate such as we enjoy in South Carolina. Planting season may find the farmer faced with too much rainfall and shortly thereafter during the critical growing season find him anxiously searching the skies for the slightest indication of a much needed shower.

Through experimentation and observation man has found that with certain crops it is often highly advantageous to supplement this unequal moisture distribution by irrigation. This practice has been followed in some sections of the nation for many years, but often under highly specialized conditions and resources. However, with the development of new engineering and cultural methods supplemental irrigation is constantly becoming more practical for general farming.

South Carolina farmers have not turned to supplemental irrigation to the extent that have those in many other states with comparable moisture problems, even though it has proven profitable for many crops grown commercially in South Carolina, particularly horticultural crops. Peaches, strawberries, beans, cabbage, cucumbers, watermelons, cantaloupes, tomatoes and lettuce are among the more responsive crops. The irrigation of pastures, and tobacco plant beds has also proven profitable. Irrigation systems adapted to the above cash crops can often be extended advantageously to other less responsive crops such as apples, pecans, alfalfa and corn.

Cooperative experiments on irrigation within the state are being conducted by the Agricultural Engineering and Horticulture Depart-

ments of the South Carolina Experiment Station and the Soil Conservation Service. H. Z. Duffie, Extension Assistant Agricultural Engineer at Clemson, is also gathering much useful information on irrigation problems related to conditions within the state.

There were 34 irrigation systems in use on about 2,000 acres in South Carolina in 1947. A growing interest in this type of farm insurance has increased this to a current 3,000 acres irrigated by 44 systems. Peaches, truck crops and pastures account for most of this acreage, with small amounts in corn and alfalfa.

Several articles on practical farm irrigation have appeared in agricultural publications recently, outstanding among these being an article on peach irrigation in South Carolina by A. M. Musser, Professor of Horticulture at Clemson, in the August issue of American Fruit Grower. J. M. Eleazer, Clemson Information Specialist, has an interesting article in the November issue of The Progressive Farmer concerning his recent coast-to-coast tour to study irrigation.

An available water supply that is both plentiful and cheap is of first importance in planning an irrigation system. South Carolina, blessed with numerous lakes and streams, should normally experience no difficulty meeting this demand. Countless natural springs feeding into watersheds ideal for reservoirs also help simplify this problem.

The crops to be irrigated, type of soil, equipment best suited to the particular operation, and frequency and method of application are among the many other factors that must also be taken into consideration when planning an irrigation system. County agents and extension workers can be of assistance in

(continued on page six)
Irrigation

(continued from page five)

solving these problems.

Methods of application generally used in South Carolina are furrow and sprinkler. The use of portable aluminum pipes, a third as heavy as lightweight steel pipes formerly used, has given a stimulus to the use of sprinklers. This method received another boost from a recently introduced nozzle that will sprinkle 2 1/2 to 3 acres at one setting. Designed to give even distribu-

tion in high crops and over large acreages, this giant among sprinklers should cut labor costs and possibly bring a wider range of crops into the protective custody of irrigation.

The old homestead may be "all wet" a little more often than usual, but many South Carolina farmers will find they have more "dry powder" to go gunning for such things as mortgages, that new tractor and Mom's deep freezer when they accept the proverbial "Adam's Ale" in their lakes and streams as a miraculous farm tonic for dryweatheritis.

THE AGRARIAN
Farm Machinery Featured During Farmer's Week

Farmers from over the entire state, and other states as well, were welcomed to the campus of Clemson College during the week of August 22, 1948. This well known "farmers' Week" is considered as an annual event at Clemson but because of production and other difficulties this was its first appearance since the beginning of World War II.

The Agricultural Engineering Department held the undivided attention of the "mechanization minded" farmers. There were more than twelve tractor or implement companies represented on the campus. Bowman Field (Clemson's main drill field) served as the parking area for the large number of farm tractors and other farm equipment.

The machinery display was only one of the unforgettable sights sponsored by the Agricultural Engineering Department. Farm pond construction, irrigation, dynamite ditching, land preparation, and many other interesting demonstrations were given on the Agricultural Engineering fields.

By S. T. RUSSELL
Agricultural Engineering '49

This picture shows the large "volume gun" in action.

A part of the large crowd who attended the annual "Farmer's Week"

The irrigation picture is that of a Rainbow "volume gun" operating at a pressure of 85 pounds at the gun. This rotating gun distributed the white, misty shower of water over 3.49 acres of pasture. The volume of water flowing from the gun and the acreage which it will cover can be governed by inserting different size rings in the nozzle.

The pump used to supply the water to this giant sprinkler was a giant itself. A four inch, centrifugal, Hale, irrigation pump was used. The maximum discharge of this pump, with a ten foot suction lift is 800 gallons per minute (480 gallons per minute equals one inch on one acre per hour) at 100 pounds pressure.

The approximate cost of this pump (mounted on a trailer), volume gun, and 1000 feet of 6 inch aluminum pipe is $3400.

Immediately after lunch each day during Farmers' Week a steady whine of the tractors began as they moved to the demonstration fields. Soon after the tractors arrived at the field, a parade of automobiles filled with farmers filed into the parking areas provided for them.

Each tractor or implement company was given a portion of the field on which to demonstrate the working of their equipment. These qualities were not only demonstrated but they were also explained to the farmer, if he so desired. It was here in this plot of land that many farmers recognized the working value of mechanized farm equipment.

The demonstration began about 2 o'clock in the afternoon and ended when the last farmer left the field. The farmer usually left the field about 5 o'clock.

The thunderous noise of dynamite could be heard over the entire farm. This noise was coming from the ditching demonstrations. As the farmer approached the demonstration he looked for ditch banks immediately, but there were not any. This factor is one of the main advantages of dynamite ditching. This type of ditching is also faster, cheaper, more simple, and there is no overhead cost of equipment. The farmers entered the field thinking only of the detrimental effect of dynamite, but they left thinking of its constructive power.

The "snack wagon", sponsored by the student branch of the American Society of Agricultural Engineers, was a welcomed feature on the hot, dusty demonstration fields. The wagon rolled from one field to the other furnishing the visitor with snacks to eat and cold drinks. This organization of students wishes to express its thanks and appreciation to the visitors for the wonderful support given the society and to Professor G. B. Nutt, Head of Agricultural Engineering Department, for making the operation of this wagon possible.
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CROSSBREEDING OF CATTLE ON THE MARCH

Clemson Cooperates with Federal Government In Promoting Crossbreeding of Dairy Cattle

Ever since man first recognized hybrid vigor, he has endeavored to harness its benefits to meet his own requirements. Possibly his first dealings with this genetical sport were with the mule. As the science of genetics was more clearly understood men were able to use its secret to develop hybrid plants that exhibited extreme vigor in the first generation. Unfortunately, with the exception of chickens, animal breeders have not been able to reproduce the quick successes obtained by the plant breeder because of the longer cycles of generations and because most animals have fewer offspring in a given period of time.

In spite of these difficulties, men of vision have attempted the development of the crossbred cow on a practical basis. Soon after the turn of the century, work was begun at the Maine Experiment Station. In 1911 the Massachusetts Experiment Station began intensive interbreeding of Guernsey and Holstein-Freisians, Jerseys, and Aberdeen-Angus. The results obtained in these trials were inconclusive because they were not carried out under controlled conditions nor were the production levels established.

Within the past decade the Bureau of Dairy Industry, United States Department of Agriculture, has started extensive experimentation to determine whether hybrid vigor in dairy cattle can be developed on a practical commercial basis. At their Beltsville, Maryland Station they have assembled a group of Holstein-Freisian, Guernsey and Jersey females from their outyling substations to be used with Red Danes from their own herd. The proved sires from their experimental herd are used to make the desired crosses.

The program as set up. calls for a continuous introduction of new genes. A typical cross under this system would be a Holstein-Freisian bull bred to a Guernsey cow. The female offspring of this union is bred to a Red Dane sire, to be followed in the next generation by a Jersey bull. As far as sex ratios allow, reciprocal crosses were made. This means that for every mating of a Jersey bull to a Holstein-Freisian female, a Holstein-Freisian bull would be bred to a Jersey cow. This was impossible with the Guernseys since no Guernsey sires were included in the project.

All the crossbred heifers were born fed during their entire lactation. They were turned out into a dry lot only during pretty weather for exercise. All the crosses are milked three times daily for 365 days and bred for their next calf after four and a half months. This means that each animal carried a calf for approximately 230 days during her lactation. All females were weighed and measured periodically to give an indication of the growth rates of the hybrids.

These records to date, have shown a 20 percent increase above the calculated expected increase over the dams, in both milk and butterfat. Crossbred animals have indicated persistency and longevity. Some individuals produced within ten lbs. as much fat during their last month of lactation as they did during their first month.

These records look encouraging, however it must be remembered that it will require time to obtain all the facts and to establish the practical application of crossbreeding.

Clemson College is one of the leaders in controlled crossbreeding, with their herd begun in 1936 by Prof. J. P. LaMaster, head of the Dairy Department. He started the herd to provide laboratory material for his genetics classes, using cattle rather than the usual Drosophila to study the inherited characteristics. It was only last year that the Clemson crossbreds became a part of the Regional Dairy Breeding Project in cooperation with the Bureau of Dairy Industry, and several other Southern Experiment Stations. The data accumulated over the past ten years on these cattle are now being analyzed for a preliminary report to be published next spring.

Among Our Alumni

1916
Andrew C. Dibble is now landscape architect and superintendent of city parks at Orangeburg, S. C.

1918
Benjamin G. Sitton is associate pomologist at the U. S. Pecan Field Station, Shreveport, La.

1922
Julius C. Townsend is agricultural statistician with the U.S.D.A. at Orlando, Florida.

1923
Dr. Melvin B. Hoffman is Professor of Pomology at Cornell University.

1929
Joseph F. Hawkins is in the fertilizer business at Timmonsville, S. C.

1933
John C. Patrick is a past president of the Tennessee Horticulture Society and a fruit grower at Fayetteville, Tenn.

1935
Walter W. Dillard is a peach grower at Greer, S. C., and also a representative for an insecticide company.

1937
Dr. Fred H. Lewis is pathologist at the Arndtsville Fruit Sub-Experiment Station at Arndtsville, Pa.

1939
Roy M. Dobson is a peach grower and farmer at Greer, S. C.
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More Sheep for South Carolina Agriculture

"Let her glad valleys smile with wavy corn;
Let fleecy flocks her rising hills adorn."

One of the earliest tasks known to man was the chore of herding sheep. Long before he bothered with the matter of recording any history, primitive man had tamed his sheep, and the delights of mutton stew and "woolens" in winter were matters of common knowledge and practice for him. All domestic animals have served man well; however, with his wool, his mutton, and the soft leather from his tanned hide, probably no other animal has aided man more in his rise from savagery to civilization than the sheep. The author of "The Indispensable Sheep" aptly phrased the place of sheep in mankind's existence when he employed the phrase: "They also serve who only stand and wait."

The sheep industry reached its peak in the United States in 1884 with a total number of 50,627,000 of the "fleecy" individuals. For South Carolina the peak in its sheep industry seems to have been reached in 1850. Since such time the decline in sheep population in this state has been very rapid and consistent. Comparing South Carolina with certain other southern states, in which environmental conditions and natural resources would approximate more nearly those of this state or lean toward the more unfavorable side for sheep raising, the decline in sheep population here outstrips the decline in such states and is proportionately larger. Using the sheep population figures for the year 1946, a computation of the number of sheep per square mile reveals .16 for South Carolina as contrasted with 5.6 for Louisiana; the states of Mississippi, North Carolina, Alabama, Florida and Georgia ranked above South Carolina. Although sheep are considered more generally adapted to the hilly sections, on April 1, 1940, certain counties in the Coastal Plains, i. e., Charleston, Williamsburg, and Orangeburg, placed ahead of counties from the Piedmont in numbers of sheep. Considering the sheep population in a state like Louisiana, there does not appear to be any acceptable or tenable reason for South Carolina ranking in last place in the sheep industry of the Southland.

In raising sheep, it is conceded generally that the medium-sized farmer will usually be more successful than the operator of a large farm because he will have more time to devote to them. The last farm surveys indicate the acreage of an average South Carolina farm as approximating 75 acres. This size farm does not lend itself to beef cattle production, and, with low grain yields, it would not be conducive to the production of pork, which in many instances would scarcely do more than supply the needs of the average farm family. It is not suggested that sheep supplant hogs or cattle in South Carolina, but from this particular standpoint it seems feasible to aver that sheep could fill a unique position in South Carolina’s general farming activities and livestock production; they could enhance the desirable features of a diversified agriculture and add a boost in farm income at a time, late spring or early summer, when it is much needed.

More sheep would be desirable in South Carolina agriculture because of the improvement in soil fertility they afford; sheep manure ranks higher than the manures from other farm animals in percentage composition, in pounds of nitrogen, phosphorous (excepting poultry in this instance) and potash per ton, and in value per ton. Increases in the sheep population here would be feasible because the stomach worm and the nodular worm, stomach and intestinal parasites of sheep and the greatest drawback to a successful sheep venture, can be effectively controlled by the administration of phenothiazine. Recent tests in administering this drug to sheep at Clemson indicates that it is effective in "removal of stomach worms, nodular worms, and hook worms."

Good permanent pastures and excellent winter grazing are added advantages to beckon expansion of the sheep industry in South Carolina. While on the subject of feed and pastures, mention might be made of work at the Georgia Experiment Station wherein it was found that for fattening lambs sweet potatoes, when compared with corn, were the most efficient per unit of digestible nutrients consumed. This is especially significant when one pauses to recall that South Carolina's 1947 corn yield was approximately 17 bushels per acre; its 1946 sweet potato yield was 105 bushels per acre.

Another surprising fact in favor of more sheep in this State is that Southern wools, the majority of which is grown by native sheep, exhibit very low shrinkage. Work at certain Southern Agricultural Experiment Stations indicates the most complete and economical utilization of pastures is derived from the dual grazing of cattle and sheep on the same pastures.

The matter of nutrition comes in for a word; the dislike of mutton and lamb by people in general in South Carolina is largely a matter of prejudice. They are nutritious meats; when compared with pork, beef, and fowl, on the basis of energy, calcium, protein, phosphorous, and iron, mutton always ranks in second or third place: it does not display wide fluctuations in food values as do its popular competitors in the meat line. On such basis, mutton and lamb are very stable in food values, and "tastily prepared, lamb is one of the most delicate, healthful and palatable of all foods." Lamb, being the most easily digested of our commercial meats, finds wide use in the diet of convalescents. More lamb, not only for keeping healthy but for restoring the sick person to health, is a desirable theme for nutrition, and the realization of same could be best served by more sheep in South Carolina agriculture.

When more sheep dot the hillsides of South Carolina and tread the verdure of her pleasant valleys a new note will have been sounded in agricultural contentment and well-being in the Palmetto State.
Current Sears Roebuck Scholarship Awards

Twenty Sears Roebuck Foundation Scholarships, each worth $100.00, have been awarded to first semester freshmen on the basis of achievement in a competitive examination held October 18. The awards yield the recipients Fifty Dollars for their first semester and a like sum their second semester; in the event a holder drops out of school the remaining balance is awarded to the competing participant in the examination who stands next in line. Dean H. P. Cooper discloses that the successful participants are: Robert M. Prince, Jr., Lynchburg; David Mangum, Spartanburg; Robert Y. Park, Winnsboro; Louis M. Stephens, Canton, N. C.; Henry R. Hogg, Jr., Hillside, N. J.; Thomas C. McMeekin, Greenside, Pa.; Jean A. Roux, Spartanburg; Geo. C. Mackey, Jr., Orangeburg; Hugh O. Vaingneur, Ridgeland; John F. McLeod, Jr., Chesterfield; Chas. L. Mason, Jr., Madison, Ga.; Edward M. Grainger, Nichols; Ross M. Sanders, St. Helena Island; Robert B. Johnston, Sumter; Frank J. Holcombe, III, Summit, N. J.; David K. Frinke, Baldwin, N. Y.; Wayne D. Dabney, Lancaster; Wayne T. Williamson, Naval Base; Harry W. Lewis, Jr., Yonkers, N. Y.; and John E. Lunn, Timmonsville.

The group receiving scholarship awards during the 1947-48 session, Winston H. Sibley, Agriculture major from Greenville, was named to receive the award offered to the sophomore who attained the highest scholastic rating in his freshman year. Sibley made a grade point ratio of 8.58 on his freshman work. This Sears Roebuck award is valued at $200.00.

A. T. A. To Be Represented At National Meet

Frank Hart has been chosen to represent Clemson’s chapter of Alpha Tau Alpha at the National convention of American Vocational Association to be held at Milwaukee, Wisconsin. Frank, along with Dr. White and Mr. Monroe, will attend this conclave from November 29 to December 4th.

Clemson Meanders Out To Texas

Clemson didn’t really stroll out to Texas, but the college was ably represented at a Farm Mechanization meeting in Lubbock, Texas, from October 14-16, by Dr. H. P. Cooper, Dean of the School of Agriculture and Director of the South Carolina Experiment Station; G. B. Nutt, Head of the Agricultural Engineering Department; M. R. Powers, Associate Agricultural Engineer of Edisto Experiment Station; W. B. Rogers, Superintendent of the Experiment Station; M. C. McKenzie, Sam Williams, W. H. Bawk and Mr. Evans of the South Carolina Extension Service.

At this meeting Mr. Nutt presented an enlightening talk on “Progress and Problems in Mechanization of Cotton and Related Crops in the Southeast”.

The National Cotton Council, Memphis, Tennessee, in cooperation with the Farm Equipment Institute, manufacturers of farm machinery, the Land Grant Colleges, and the U. S. Department of Agriculture, is sponsoring these meetings which are held annually.

While in Texas, on October 15th, Dean Cooper, together with Dr. Russell Coleman, State College, Mississippi, and Dr. R. D. Lewis, of College Station in Texas, was featured in a radio forum discussion on Cotton Mechanization in the Southeast over Station KSEL.

Borden Agricultural Scholarship Awarded

William McKay, Dairy Major, of Hendersonville, North Carolina, has been named winner of the Borden Agriculture Scholarship, valued at $300.00, for 1948.

Eligibility for this award is predicated upon the inclusion of two dairy courses in the curriculum of any agricultural student by the end of his junior year in addition to the highest scholastic rating at this time. McKay, having 36 other competitors who where eligible, attained the highest grade point ratio — 8.01.

THE AGRARIAN
FURROWS

With Animal Husbandry Professors On Leave

Professor R. R. Ritchie, formerly with the Animal Husbandry Department of the college, is now on leave for a period of two years and is sojourning in Japan, being associated with efforts of the U. S. Army in rehabilitating Japanese agriculture. Word from Mr. Ritchie indicates that the trend in livestock there is toward dairy cattle and draft animals; a shipment of Brown Swiss cattle is expected to arrive in Japan next summer. He states that progress is being made in achieving their goal, and much interest is being manifested in artificial insemination.

Assistant Professor W. C. Godley of this department is now on leave from his teaching duties and has assumed the role of student again. He is presently at North Carolina State College and is working on his Master's Degree. News indicates he is doing major work in breeding, while production and statistics hold secondary importance in his academic strivings. Mr. Godley intimates that the housing situation in those parts of the Old North State is grave, as elsewhere, hence his family has not joined him there.

Horticulture Students Set Up New Club Room

The basement of the Ag Building has been more of an eyesore than anything else but recent days have disclosed a glittering touch in this once drab spot. A room once used for dull lab periods is now replete with the latest in modern furniture to duplicate all that the best living room in a home might offer. The color scheme is bright, but conservative. The homelike atmosphere provides a background for the activities of the Horticulture Club; it's the newest on the campus, and it's one that might well be the envy of any other club. The new club room is the culmination of much effort on the part of students interested in Horticulture, the faculty members of this department, and Clemson friends and supporters.

F. F. A. Boys Attend State Fair

Attending a mass meeting of the J. H. A. and F. F. A. members at the State Fair on Tuesday, October 19, were Frank Hart, "Ed" Hucks, Len Reynolds, Don Johnson, Carroll Gulledge, J. C. Jackson, and Ted Melton of the Clemson Chapter. The meeting, at which speeches were made by J. T. Anderson, S. C. State Supt. of Education, and Mr. Sloan, representing the Governor, was held at the Carolina Stadium in Columbia.

Alpha Zeta Takes in New Men

The South Carolina Chapter of the Fraternity of Alpha Zeta initiated nine new men on November 8. These men were selected on the basis of scholarship, character, and leadership. They were initiated after having undergone a week of informal initiation.

The new members are Richard Baird, agronomy senior of Darlington; James C. Bishop, horticulture senior of Beaufort; William B. Boykin, agronomy sophomore of Boykin; Harry Falls, Jr., animal husbandry senior of Asheville, N. C.; Henry A. Smith, horticulture senior of Greenville; Calvin C. Taylor, agricultural economics junior of Greenville; John F. Wise, animal husbandry senior of McCormick; and Smith Worley, agronomy senior of Windsor.

Recently S. P. Young was elected to attend the National Conclave to be held in Washington on December 29, 30, 31, and January 1. Work has recently begun on the chapter history and it will be ready for presentation at the Conclave.

The chapter is planning to adopt a set of bylaws at the next meeting and is making plans to entertain one of the founders of the Fraternity who is to be at Clemson in the very near future. At the end of the current semester the local Chapter will honor the outstanding freshmen in the School of Agriculture with various awards.
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Will It Happen Again?

Last spring after several unsuccessful attempts from various sources to stop students from tramping down the grass in front of the Dairy Building a scheme was devised which was successful—temporarily. The grass again sprang up and the Ag Campus was the pretty sight it was supposed to be. It appeared that the problem had been solved.

With the coming of fall and a new semester students are again walking across the grass. Unless something is done soon the same ugly sight that greeted visitors last year will again appear.

Let's all make a special drive to remind those who are inclined to take the short cut. If we start now we may be able to save much expense later on and be able to preserve rather than restore Clemson's pretty campus.

Community Chest Drive To Begin Soon

The Community Chest Drive at Clemson will be inaugurated during the week of December 6-11. This drive will eliminate all the smaller miscellaneous drives from time to time that have plagued student's wallets in past years. It is being sponsored and carried out by several of the top honor and service fraternities on the campus.

The proceeds will be split between the YMCA, Tuberculosis Fund, Cancer Fund, Infantile Paralysis Fund, and several smaller miscellaneous causes. The goal for this drive has been set at $5,000.

This drive has the full endorsement of the administration and if it is successful this year it will probably be continued in following years. All students are being asked to join whole-heartedly to make this campaign a success.

Now Is The Time To Start

During the last month or two just about every club in the Ag School has taken in new members. Now that they have these new members, what comes next on their agenda?

Are they going to fall into a rut and beat time for the rest of the semester or are they going to "get up steam" and really do something worthwhile. Several of the departmental clubs have accomplished worthwhile projects but on the other hand many don't. This is a challenge to the officers of these clubs to really put their clubs on the map by actually accomplishing something.

There is certainly no point in suggesting projects because they are certainly conspicuous enough. Remember the old saying, "Anytime is a good time to start to do things but next to yesterday, today is the best day."

THE WINNER

"The man who wins is an average man,
Not built on any particular plan;
Nor blest with any peculiar luck—
Just steady and earnest and full of pluck.

When asked a question he does not guess!
He knows and answers "No" or "Yes."
When set a task the rest can't do
He buckles down and sees it through.
So he works and waits, 'till one fine day,
There's a better job with bigger pay.
And the men who shirked wherever they could
Are bossed by the men whose work made good.

For the man who wins is the man who works,
Who neither labor nor trouble shirks;
Who uses his hands, his head, his eyes—
The man who wins is the man who tries.

—From a poster on the Purina Farm.
An Inspiring Four Weeks Experience

Imagine a four weeks session which covers complete courses in nutrition, feeding, personnel management, business administration, advertising, ethics, Bible, and balanced living. Does that sound impossible? Then you don't know Mr. William H. Danforth, founder of the largest feed company in the world,Ralston-Purina Company. Mr. Danforth has incorporated these experiences into a four weeks summer fellowship known officially as The Danforth Fellowship. This fellowship is open to all rising seniors in most of the agricultural colleges in the United States and also in Canada.

The students are selected on the basis of scholarship, character, and leadership and are selected by a faculty committee from each school. They are selected in the spring and spend two weeks with the Ralston-Purina Company in St. Louis and two weeks at Camp Minniwanka, the American Youth Foundation leadership training camp, on the eastern shore of Lake Michigan. I was privileged to represent Clemson on this trip this past summer.

Arriving in St. Louis August 1, the thirty-five students from as many colleges throughout the United States and Canada assembled and started getting acquainted. The next morning we met Mr. Earl Sindencuse, who was to be our host in St. Louis, and boarded a bus for the research farm located at Gray Summit, Missouri. We spent three days at the farm observing the various methods used for research on their feeds.

Recreation was not bypassed however while at the farm. One night we formed a team and played the farm softball team. We soon found out that those farm hands knew how to play softball as well as farm. After a hot battle the "college boys" were defeated 12-11. The next night we hopped a truck and rode out to the Meramac River for some swimming. The truck almost rolled into a ditch on the way but we all got out and pushed and soon were on our merry way again.

By SAM E. Mc Gregor
Dairying, 1949

Mr. Danforth and Sam McGregor at Camp Minniwanka.

Back in St. Louis we spent several days touring the research laboratories and hearing lectures by their well informed chemists and biologists. Other lectures included credit ratings, legal problems of a large corporation, salesmanship, and personnel management. We each had the privilege of an interview with Mr. Moise, Director of Personnel. We really saw how a large company is run and all the intricate processes involved.

Trips were taken to other firms in the city which included a day at Swift and Company and The International Stock Yards Company, another day at a national advertising company, and part of a day at a large commercial egg packing plant. We spent one day at the Merchant's Exchange, the oldest in America. Here we learned about grain futures and hedging.

The time not spent in lectures and tours was usually filled with organizing a notebook. Yes, we actually kept notebooks and by the end of the first week just about everybody was dead from "writer's cramp".

This Danforth Fellowship also took care of our social life. Social activities included a light opera, a doubleheader between the Browns and the Indians, a play at the world famous Goldenrod Showboat, and a tour of St. Louis and the Municipal Zoo. The last night there we had a banquet at a famous Italian restaurant.

This really sounds like a full two weeks but the two weeks at Camp Minniwanka were even fuller. The day began at 6:30 with a cold dip in Lake Michigan. After cleaning up the tent area everyone joined together in a fifteen minute quiet devotional period. After breakfast everyone trekked off over the sand dunes to classes. Four class periods each morning included such subjects as "Life's Essentials", "Balanced Four-Fold Living", "Ethics", "Horizons", and "The Bible and the Idea of God". After classes and dinner we had another class and then the whole camp split into tribes and participated in softball, volleyball, and waterball. After the tribal games swimming and sailing were available for those who cared to participate.

At the close of the day came the most inspiring period of the entire camp. Everyone went up to vesper dune and watched the sun sink over Lake Michigan as each meditated on the message being brought by one of the camp staff. After vespers a social period was observed that included such activities as flashlight relays, small campfire groups, stunt nights, and human rodeos.

Ag students, this very same trip I have just described will be given to two more students next spring and the years after that. Wouldn't you like to win this wonderful four weeks expense paid trip?

Here is my advice to you and you can't lose. That is to live the Danforth way and "be your own self at your very best all the time." Make your own path here at Clemson and out in life. If you will endeavor to try this I can't guarantee you a four weeks trip but I know you will enjoy life as you have never done before. I tried it this summer and it works.

"A winner never quits and a quitter never wins."

SIXTEEN

THE AGRARIAN
SHOWING a champion . . . bringing home a blue ribbon from the fair is the favorite dream of many a farm boy. That’s why he spends a good share of his waking hours helping it to come true.

He garnishes his calf’s ground corn with minerals and molasses—worries if it isn’t licked up clean. He spends hours teaching his baby heifer to lead . . . combs and curries its gleaming coat until aching arms rebel.

Dreaming dreams and then working hard to make them come true is the American way. That’s the spirit which transformed a wilderness into the world’s most powerful nation in a little over 300 years. That’s the mainspring which made a peace-loving nation the arsenal of democracy. That’s the habit which makes our country the land of opportunity and great accomplishments.

Back in 1837, John Deere’s dreams and dogged determination gave the world the first successful steel plow. This new plow unlocked the wealth of the prairie soil—created a new agricultural empire. Today, the John Deere organization is pioneering new frontiers—working to make the American dream of a well-fed world a reality.

Careful preparation and lots of perspiration still make dreams come true in America. For in this free land, life is what you make it—the future is unlimited.

John Deere
MO LINE • ILLINOIS
In the following paragraphs you will find a few descriptive words about some of Clemson's best footballers. Included in this list are the so called “flash boys” of the backfield and the “unsung heroes” that make up Clemson’s forward wall. These boys have taken their places on one of Clemson's greatest gridiron machines. Yet, we hardly realize, they're the guys next to us in class or the fellow that kids you about your best girl. All of us are teammates in one of America's finest institutions. This is a toast to a group which acts as our ambassadors every time they take the field for the Yellow Peril.

"BUNNY"

First, there is Bonneau Brodie. Bonneau is one of Clemson's backfield aces. At Boston, Bonneau continually caused the Eagles the greatest amount of trouble. Spin-

"JACK"

ning, plunging and hitting the line ferociously, Bonneau has made his mark in the annals of Tiger football.

“Bunny,” as Bonneau is affectionately called, began his junior year this fall. “Bunny” is taking animal husbandry and plans to raise cattle in Aiken, South Carolina upon graduation. His wife, Eloise, is from Hartsville, South Carolina. “Bunny” met Eloise while attending a ballet class at the Foster School of Dance. The best to Bonneau Brodie, 195 pound Tiger fullback from Aiken, South Carolina.

"JUD"

Jud Davis

Jud Davis, Tiger guard from Denmark, South Carolina, is one of our most outstanding linemen. At the Carolina game, he made himself felt by dumping Carolina backs for loses time and again. Jud plays his heart out in every game. He has a spirit unequalled at Clemson. He plays every play as if it were a goal line stand, with only “Ole’ Jud” holding down the entire line.

The animal husbandry department claims Jud for itself. Jud plans to farm at Denmark after graduation and employ his animal husbandry education as the opportunity presents itself. Whatever Jud does, he'll (continued on page twenty)
A New System of Motorized Farm Tools—

**JOBS for the MODEL G**

1. Replaces last team of horses on all light jobs.
2. An economical "chore" tractor — uses only 2 to 3 quarts of fuel per hour.
3. An all-round tractor for small acreages — plows, discs, harrows, plants, cultivates, mows and does belt work.
4. Ideal for planting and cultivating corn, cotton, soybeans, in any desired row spacing.
5. A handy auxiliary tractor on large farms.

**A NEW KIND OF FARM POWER**

The Model G is not just another size, another small tractor, but a new idea in farm power. Rear-mounted engine and front-mounted tools permit the operator clear, straight-ahead vision. Any tool can be attached or detached in five minutes or less. The special 3 1/2 mile per hour low speed replaces hand methods for precision tillage. Such features mark the Model G as the most modern development in efficient farm power.

**FULL LINE OF TOOLS**

- 5-foot Single Action Disc
- 1-section Spring Tooth Harrow
- 2-section Peg Tooth Harrow
- 2-row Drill Planter
- Attached Moldboard Plow, 12-inch Bottom
- 5-foot Mower
- 1-row Cultivator
- Multiple-Row Ground-Driven Seeders, Power Driven Seeders, Independent-Gang Cultivators
- 80-inch Single Tool-Bar adaptable to many combinations of cultivating equipment; also 60-inch Double Tool-Bar
Outstanding Aggies

(continued from page eighteen)

always have as many friends as there were Clemson students in the fall of 1949.

"BIG TOM"

Tom Salisbury gained national recognition a few weeks back by blocking a punt. Proceeding to pick it up, he ran for a touchdown against Mississippi State. Tom’s play has always been nothing short of spectacular. Breaking through the line and worrying opposing backs seems to be the way “Big Tom” operates.

As so many of you know, Tom hails from Summerville, South Carolina. This is his last year at Clemson and he is getting an excellent background in the field of dairying. Tom plans to lead a quiet life after graduation and may be try his hand at farming. He plans, as popular opinion says, to send another Tom to Clemson to take up where he left off in the coming years.

Gene Moore

Gene might very well be called “Happy” because he is never seen without a smile. Lake City can very well be proud of this six foot one 195 pound gentleman. Gene is a VAE major and plans to teach a little while doing a great deal of coaching. Liked by all and feared by every opponent, Gene will do well next year in football and every year in the game of life.

"YANKEE"

We’ve saved this “good Yankee” until the last. Playing with hurricane intensity, Ray Mathews has meant much to Clemson. If the “Noth” had tried, they couldn’t have sent a better representative to Clemson College. This was brought to the attention of everyone attending the 1947 Carolina game when Ray broke away for that long, long run.

Ray Mathews

Ray majors in agronomy and will probably do government work after graduation. He has two more years with us and should be one of the South’s best backs next year. McKeesport, Pa., certainly can be proud of this native son who decided to come South.

This completes a few lines about our friends and classmates who have helped our school gain national recognition. With hard work, good luck and Frank Howard, they may play before their largest audience on New Year’s Day.

The cake, candy and nuts were simply delicious. Mickey did his share by putting them where they would do the most good.

“Won’t you have some more, Mickey?” asked his smiling hostess.

“No thanks,” replied the little fellow. “I’m full.”

“Well then put some candy and nuts in your pocket to eat on your way home.”

“No, ma’am, thank you,” chirped Mickey. “They’re full too.”

The AGRARIAN
AT LAY-UP TIME this Fall—you can help prevent the winter rust that costs thousands of farmers the use of valuable farming equipment if you use Esso Rust-Ban products.

ESSO RUST-BAN 347 protects all kinds of exposed machinery metal. It is quickly and easily applied with brush or cloth, and readily removed at any time with kerosene. For plows, cultivators, disks, and other exposed implements.

TO STOP the attack of rust on the insides of idle engines, use Esso Rust-Ban 603. It has special properties that combat rust, and a protective film adheres to inside engine surfaces, affording important, winter-long protection. In the Spring, Rust-Ban is replaced with motor oil.

ANY ESSO DISTRIBUTOR will gladly tell you about other Esso Rust-Ban products that can mean money-saving protection for valuable farm equipment.

AGRICULTURAL STUDENTS are offered free subscriptions to regularly published ESSO FARM NEWS. a favorite with farmers for its very complete crop articles and its many helpful tips to better farming. To get yours, please write Esso Farm...
Student Forum of Air Inaugurated

The latest newcomer to Clemson's organizational roster is the Clemson College Student Forum of the Air, organized "to perpetuate the desires of Thomas G. Clemson, Founder of Clemson A & M College, to give the farmers of South Carolina the benefits of scientific and technological advances in agriculture. This organization, through training received at Clemson College and through the cooperation of the Extension Service and Experiment Station, shall on this program further these purposes and aims." The SFA, conceived and fostered by Frank Seddon, majoring in Agricultural Economics, breathed its first breath of fact on September 24, 1948. Frank Seddon was chosen President; John F. Alexander was elected Vice-President; the position of Secretary-Historian is filled by Johnston L. Crapse; and the club's first Treasurer is George W. Brown.

The various departments in the School of Agriculture are assisting in procuring the factual information for the agricultural programs, which began during the week of October 25th. Each week the agricultural programs will be broadcast over a network of twenty-four stations. In addition to the programs presented primarily for the farmers of South Carolina, beginning the week of November 1st the SFA will present a half-hour weekly program over the Anderson Radio Stations. The latter programs will be broadcast each Thursday evening from 8:00 to 8:30 p.m.

...if it's equipped with Armour strings. It may surprise you to learn that tennis strings are a by-product of the livestock and meat packing industry...just one of many by-products that enrich your college life. The livestock and meat packing industry is more than a processor of meat for good diets and good eating—it is the source of leather...soap...animal feeds...fertilizers...drugs...pharmaceuticals...veterinary supplies...chemicals...curled hair...glue...sandpaper...and a whole array of other products of farm, home, and industrial value.

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Set aside your Lawn Mower and Water Hose and PLANT CENTIPEDE LAWN GRASS

The new grass imported from China by the U. S. Government to provide permanent lawns in the South. Needs no mowing nor artificial watering. Grows on any kind of soil and under trees. WARNING—Several types of grass are being sold at CENTIPEDE. We are the original growers from the original imported stock. Be sure with pure culture. Write for particulars. Not adapted north of North Carolina.

LAND'S END FARM, Burton, S. C.
At a touch of your fingers
Faster, Better, Easier Farming
with FARMALL Touch-Control

PLOWING

PLANTING

CULTIVATING

FARMALL Touch-Control on this Farmall Super-A tractor lowers and raises the plow bottom and separately adjusts the drawbar height to change the depth of plowing.

Front and rear cultivator units or left and right sections on this Farmall C may be lifted independently or their depth adjusted by Farmall Touch-Control.

This planter, forward-mounted on a Farmall C tractor, is easily raised by Touch-Control. Planting depth may be similarly controlled.

THE MOST IMPORTANT IMPROVEMENT IN FARMALL FARMING SINCE 1923!

You will never have to tug and strain to adjust the implements on Farmalls Super-A, C, and Cub tractors. A "fingertip touch" on the Farmall Touch-Control lever instantly starts a powerful hydraulic system working for you.

You'll like Touch-Control's two-way action—so sure—so powerful. Its selective power will raise, lower, hold, or force down the implements.

Technical developments, such as Farmall Touch-Control, will continue to play a leading role in the maintenance of better, more profitable farming in America and in the advancement of approved soil conservation practices.

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Listen to James Melton on "Harvest of Stars"
Every Wednesday Night, CBS

Only International Harvester builds FARMALLS
THE LIGHTER SHADES OF CAMPUS LIFE

Last year this column printed many stories about the wheels and sad sacks of The Clemson School of Agriculture. This year, we plan to follow about the same procedure with maybe a few variations. If for some reason the data contained here-in is not exactly correct, it is purely intentional and not coincidental. The only added feature that we can think of is lovely Jean Peters. With each issue, we plan to run a picture of a charming young lady to add local color. This should be better than having the usual cow stuck right in the center of this page.

At Winthrop's Autumn Ball, we were surprised to see “Lord Calvert” Gandy walking upright. Gandy usually tries the waltz on all fours after intermission. We understand that Gandy has been selected as representative for some large chemical firm. He handles all of his business through a distributing agency at Converse College.

A toast to Doctor “I've been around” Rush. Between talking about microbes and barflies, he managed to tell Lachicotte to stop mumbling in his beard. Lachicotte wasn't really mumbling — just going over that weeks Parley card.

We've noticed that “Skip” Seddon spends a great deal of his time in the radio room of the library. A lot of the fellows think that the Radio Forum is “Skip's” only claim to fame. Just ask “Skip” about that contract he plans to get with C.B.S. Yea, that's right, C.B.S. Haw!

“Stud” Klettner has released another communiqué to the “world outside”. We might mention that “Stud” has been locked in his room since last dance counting that green stuff we affectionately call money. His communiqué states, “I have decided not to pay tuition this term. Instead, I'll just ask the college how much they need.”

Len Reynolds plans to announce his engagement to that sweet sweet girl down at Breneau — just as soon as the FFA dues are collected. Did we say something that might mar the fine reputation of Mr. Reynolds? Wake up Len! Everybody knows about last year's Limestone escapade.

Lou Gullege has dated so much at the Nurses' Home in Sumter, they have started calling him a house doctor. Wipe your brow Lou, that's as far as we can go.

If you think the Robert Shaw Chorale was good, you should hear Sunny Dinkins and the boys after a few rounds. Sunny is the only man that can outsing Nelson Eddy while standing on his head under a cold shower.

We must congratulate Jack “Power” Clegg on the way the Taps Beauty Contest was handled. Tell us Jack, what other girls were picked other than your sweetie?

Get that thinking cap on fellows, and win some free smokes by answering the riddles in the Chesterfield Contest. It is all so simple and easy; be sure to get your answers in soon and turn them in to room 3-228 or room 8-230. Be sure to get them in right away.
Our organization of pipe-makers was just 15 years old when this Indian attack took place in Wyoming in 1866. Our people travelled by stage coach across the country in those days to see their customers. Making the best pipes has been a tradition with Kaywoodie pipe-makers for 97 years. Kaywoodies are unsurpassed for smoking quality, beauty of workmanship, and long service. “Drinkless” fitment in shank has proved to be best of all pipe filters. Kaywoodies range in price from $3.50 to $25. Identify by Cloverleaf A. 20-page booklet on request. Kaywoodie Company, New York and London. 630 Fifth Avenue, New York 20, N. Y.

"NINETY - FIVER" KAYWOODIE, $20. Its handsome band is solid, reinforcing the shank of pipe. Walnut-finish. Shape No. 12B.

"CENTENNIAL" KAYWOODIE, $25: A pipe that is as rare as a perfect diamond. Natural finish reveals beauty of grain. Band is solid. Shape No. 17.
"They're Milder—that's why I always smoke Chesterfields"

Tyrone Power

STARRING IN "THE LUCK OF THE IRISH"
A 20TH CENTURY-FOX PRODUCTION

AND TO KEEP PACE WITH THE EVER-INCREASING DEMAND
Chesterfield is building another factory
— it's large — it's modern and in the very heart of Tobaccoland where the Chesterfield Factory group and tobacco-ageing warehouses are already "A city within a city"

SO MILD they Satisfy Millions  SO MILD they'll Satisfy You

For CHESTERFIELD CONTEST See Page 24

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