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The Agrarian Vol. 9 No. 2

Clemson University

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Yes, Camels are SO MILD that in a coast-to-coast test of hundreds of men and women who smoked Camels—and only Camels—for 30 consecutive days, noted throat specialists, making weekly examinations, reported NOT ONE SINGLE CASE OF THROAT IRRITATION DUE TO SMOKING CAMELS!
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THE COVER—J. E. Cushman, now a Dairying junior at Clemson, is pictured with his twin registered Guernsey cows at his home in Chester, S. C.

Photo by Stan Lewis
Pasture picture on page 5, by John Cothran.
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Ventilated bales are the result of years of development by Case engineers. Two years of testing by an agricultural college compared ventilated bales with conventional bales of the same hays, handled and stored the same. Professional graders found the hay in ventilated bales of consistently higher average quality. All Case Slicer-Balers are now built with Bale Ventilator. It also is available for installation on machines in use. J. I. Case Co., Racine, Wis.
MULCH FARMING -- THE SOILSAVER

Is Mulch Farming An Answer to Our Soil Erosion Problem?

The use of mulches may have a very large effect in helping to reduce runoff and erosion throughout the Southeastern states, according to a report prepared by Prof. George B. Nutt, Head of the Agricultural Engineering Department, on the experimental work which has been conducted at Clemson on mulch farming. As shown by the accompanying graph, soil loss may be reduced by the utilization of surface mulches from over 5,000 pounds of soil per acre to less than 400 pounds per acre, and water runoff may be materially reduced at the same time.

By ROBERT M. PRINCE
Agricultural Engineering '51

These experiments have been conducted since 1942 by the South Carolina Agricultural Experiment Station, in co-operation with the Soil Conservation Service of the U. S. Department of Agriculture. Many problems have been encountered during this period as to the type of equipment to be used in maintaining plant residue on the surface as a mulch. Machinery has been developed for this purpose in other sections of the country, but this equipment, which included wide flat sweeps with rolling coulters, was found to be entirely unadaptable to the hard, dry, rocky soil which predominates in the Piedmont province in which Clemson is located. Various types of machinery have been tested, however, only those which have been proven to be the most satisfactory will be discussed.

The first operation in the preparation of mulch is usually done about the first week in April. A heavy-duty tandem disc harrow equipped with scalloped discs and weight boxes is used to kill the cover crop without turning it under. In 1949, a Graham-Hoeme tiller was used after the discing operation to further loosen the soil. About two weeks after discing, the planting furrows are opened up with a middlebust which has several modifications. The moldboards are removed; the frog is cut down to allow soil to fall back into the furrow; disc hiller are attached in such a manner as to move the vegetation away from the furrow; and a rolling coulter is attached to cut through the material and prevent clogging. As soon as possible after the furrow-opening operation is completed, planting is done in the opened furrows by a conventional planter with a fertilizer attachment. Just as with the middlebust, disc hiller are also used with the planter to push vegetation out of the furrows.

Mulches prepared in this manner have been very effective in reducing runoff and erosion in corn fields, and have even increased the corn yield in some cases. Cultivation is done by rotary hoes for one or two cultivations, followed by the use of sweeps for several cultivations when the corn is big enough.

The use of mulches in cotton has not proved to be as satisfactory as with corn because of a reduction in yield. There are several reasons for this reduction, possibly the most outstanding of which is that the presence of plant residue provides a harboring place for boll weevils.

It has also been found that the effectiveness of small grain in preventing erosion is greatly increased by employing a mulch, which provides more protection during the fall and winter months. The land is prepared for planting, not by the use of a turn plow, but by the use of a spring tiller and disc harrow which leave much of the plant residue near the surface. This method of treatment has significantly raised the yields of small grain and has held soil and runoff losses to very small quantities.

The Clemson experiments have proved that mulch farming has definite possibilities to reduce erosion on the rolling land of the Southeast. However, it offers a strong challenge to the farm machinery manufacturers. Planting equipment needs to be developed which would eliminate the separate furrow-opening operation which is now necessary in maintaining a mulch on corn land. If manufacturers will perfect the proper type of mulch machinery, great progress can be made in the field of soil conservation through the use of mulch farming.
Super Pasture

Integration of Agriculture and Industry
in Anderson County

Agriculture is fifteen months old at the Gerrish Milliken rayon weaving plant, a Deering Milliken mill located at Pendleton, South Carolina. Most non-agriculturists do not consider agriculture in the same industrial light as they do other businesses; consequently, as they visit the new mill, they are struck by the seeming contrast between agriculture and industry, the cows grazing on the clover and fescue, the modern mill working for maximum efficiency.

The reasons for the presence of the agricultural project are many. The new rayon weaving mill at Pendleton cost approximately $4,000,000; therefore, it was most appropriate that this mill have a landscaping job that would do justice to the mill itself. A large share of the credit for the “Deering-Milliken Farm Project” must be given to Mr. E. W. Simpson, a New Jersey landscape architect, and Farm Manager of the entire project. In 1948 a conference was held between Mr. Simpson and Mr. Roger Milliken, who heads the corporation, and at that time it was decided that alta fescue and ladino clover were the most suitable crops to plant. The object of the plan was not only to improve the appearance of the mill but also to provide an income that would at least pay for the operation. Seed crops from ladino clover and alta fescue were to furnish this income.

By ALAN SIBLEY, JR.
Agronomy ’51

Mr. Simpson realized the importance of this undertaking, and he shifted his base of operations to the mill area. The fact that the mill was located so near Clemson College was a main factor in deciding that the landscaping project should be agricultural, and Mr. Simpson did not hesitate to enlist the help of the Clemson College Agricultural Extension Service, with which he has been working closely. Mr. H. A. Woodle, Director of the Agronomy Extension Work, had a soil analysis made of the soils at the new mill, and from this information fertilizer recommendations were made. Mr. Simpson is also working in conjunction with Mr. J. H. Hopkins, Anderson County Agent, on the county’s Pasture Improvement Program. All in all, Mr. Simpson has been hurrying back and forth between Pendleton and Clemson to try to solve the many problems that arise in any new agricultural undertaking.

To date the fescue-ladino pasture is fifteen months old. In the spring of 1949 the pasture was cut and the grass sold to Clemson College where it is being used for silage. The silage is of very superior quality and is the best the Clemson Dairy Department has on hand, analyzing over 20 percent T.D.N. Ladino seed and hay were also harvested in 1949.

It became apparent that the most economical plan for removing the excess growth of pasture from the land was to begin a cattle program. Today there are 158 head grazing on the 157 acres at Deering Milliken, two-thirds of which were shipped from Kansas City, Missouri, on November 2, 1949. The remaining one-third have been acquired since that time from local markets. Help has been obtained from the Clemson School of Agriculture regarding the proper care of these animals. Professor E. G. Godbey, Animal Husbandman, has been consulted frequently.

At present the year round pasture is divided into six plots of comparable acreage, separated from one another by electric fencing. The cattle, consisting of 150 Herefords and 7 Aberdeen Angus, have been shifted from plot to plot. They are now grazing on Plot 5, and Plot 1 is almost ready to be grazed again. As the cattle are shifted to successive fields, the grazed plots are fertilized with a complete fertilizer plus additional applications of ammonium nitrate. Favorable results have been (continued on page eighteen)
PROFITABLE AND EFFECTIVE PRUNING

POINTERS ON PRUNING KNOW-HOW

Just as a good gardener will strive to prevent haphazard growth of a flowering plant, so will any person possessing pride in the trees and shrubs surrounding his dwellings strive to give these “plants of a larger variety” a chance to grow properly in order that they may make the most beneficial contribution to the appearance of his property.

Pruning is a very common practice in both city home lots and farm grounds; however, to say that effective and profitable pruning was employed in most of these cases would not be in accordance with the opinion of most tree pruning experts. The practice of pruning is not restricted to man; it is a natural and necessary process used by nature.

One of the primary rules to be followed in pruning is that every cut should be made with reason.

Generally, pruning falls into two broad categories: (1) structural pruning to remove weak and dead branches; (2) corrective pruning to correct growing faults, eliminate interfering and interlacing branches, and to promote symmetry.

NATURE'S HARD WAY

In the forests it is nature's course for trees to prune themselves which often results in violent and ruthless treatment. Over a period of years, the weakest limbs decay and eventually fall. Sometimes, during a wind or ice storm, whole arms of trees are torn out, leaving huge ugly scars. Man, when he applies modern practical methods can do a much better job of pruning. Three questions are commonly asked in any pruning discussion: When to prune, What to prune, and How to prune.

The old adage, prune when the saw is sharp, has always been a good practice. Winter months are considered the ideal months to prune because the leaves have fallen to the ground and the pruner can better see what he is doing. Then, too, lawns are not disfigured and there is less damage to plants around the tree.

Almost everyone recognizes that dead wood and drying branches should be cut away in the interest of appearance and safety. But equally important, it is done for tree sanitation. Timely pruning and pruning of the weakest, dead, and dying wood is an effective method of checking the spread of disease. Pruning the bark destroys the bark beetles which over wintertime are grubs. Otherwise, the beetles will spread infection to healthy trees in the spring. Pruning will help keep pests under control and is a sanitary practice; it will also serve to check such outbreaks as blight, wilt, and anthracnose. Commonly, pruning stops with the removal of dead branches which is only a good start in effective pruning.

By H. F. PHILIPPSTHAL
Botany '51

The guidance of young and middle-aged trees is very essential. The object is to produce a strong tree by avoiding Y crotches and the development of limbs so near each other that later growth will result in interference either at the base or farther out.

Take a long look at your trees now. Most persons assume that trees should be allowed to grow at will. Notice the wayward branches and the Y crotches. Most of the common lawn trees have a habit of developing a large number of slender branches, some of which rub one another. An excessively branched tree of this type can be helped by a good healthy thinning, but it should be done over a two or three year period. Removing too much wood at one time will open up the tree to sun scald injury. And sun scald is followed by the invasion of bark beetles and borers.

Remember how thick the top of the shade tree on the front lawn was this summer? It shaded the house so much that it made the living room dark, and when heavy winds blew, it would strike the outer walls of the house. You were afraid the tree would blow over if a severe wind storm would come.

Winter pruning will thin it. The top can be opened for air circulation and entrance of light. The tree will benefit and so will the once-darkened house.

Just as taller trees can be lowered by pruning, trees whose branches scrape your hat when you walk beneath may be made taller. Simply raise their lower limbs by removing them. It should always be remembered that the natural form of most trees is more beautiful than an artificial shape. Character pruning has its primary aim—the pruning of a tree so that its true branching habits will stand out as a beautiful silhouette against the sky.

Before beginning to prune, keep these three principles in mind:

1. Pruning the top of a tree invigorates the branches that remain.
2. Pruning the roots—done principally when transplanting a tree, lessens the food supply and so retards top growth.
3. Removal of excessive buds throws greater vigor into those that remain. Pruning away terminal buds induces a thickening of the branch system.

YOUR EASY WAY

Always begin pruning at the top of a tree, then work down. It is easier to shape a tree by this method. Time is also saved in clearing the pruned limbs. Always cut a branch close to the trunk swelling from which it originates. Keep the size of the cut to the practical minimum. The best results are obtained when the tools are sharp. And if a tree being pruned is known to be diseased, sterilize the tools before using them again on a healthy tree.

When you have finished, stand off and ask yourself whether the tree looks as though no limbs have been removed at all. The proof of good pruning is the complete absence of any conspicuous evidence of the pruning work. If the finished work measures up to that, you have mastered the art of pruning.

SIX

THE AGRARIAN
MORE FOOD VALUE FROM ENRICHED CORN MEAL AND GRITS

The Nutrition Department of the South Carolina Experiment Station recognized that corn meal and grits consumption is so large in South Carolina, that research on the nutritive value of these products would be very worthwhile. Analyses proved that corn is very low in mineral and vitamin content. The lowest income group probably eat more corn products than any other one food and also would benefit most by inclusion of more vitamins and minerals in their diets. The Experiment Station recommended enrichment of corn meal and grits.

The State Nutrition Committee, composed of some 45 people representing all state agencies, decided corn meal enrichment was really worthwhile. They presented a proposed law to the General Assembly which was enacted and requires that all degenerated corn meal and grits sold in South Carolina be enriched.

In the meantime, mechanics in the Nutrition Department shop developed a device to feed the enrichment into the meal as it was ground at the mill. At the same time, the chemists developed an enrichment mixture containing the vitamins and minerals, which would flow through the little feeder into the corn meal. After much work, a granular grits premix was also developed which looked just like grits but would not wash out when the grits are washed prior to cooking.

Some 200 millers saw the value of enriching meal, how it would benefit them as well as their communities, so they had the feeders installed on their mills and enriched voluntarily. The law requiring enrichment of degenerated corn products did not apply to the small local mills, as they ground the whole corn meal.

The Clemson College Extension Service actively participated in taking the program to the people. Installation of feeders and distribution of enrichment ingredients is conducted on a non-profit basis as a service to millers.

Millers who do not enrich, do not clean their shelled corn, do not label their products, or carry out other sanitary milling practices, can undersell the millers who do. This caused unfair competition. The State Nutrition Committee again came to the rescue and was instrumental in getting the 1949 General Assembly to pass a law requiring that all corn meal and grits sold in South Carolina had to be enriched and labeled. This law became effective September 1.

Much emphasis is being placed on milling and marketing clean corn meal. The mechanics at Clemson have developed an inexpensive corn cleaner which removes dirt, insect fragments, and rodent excreta from shelled corn. This eliminates filth which ordinarily is ground into the meal. The cleaner, feeders and premix, are available to millers on a non-profit basis. South Carolinians who consume carloads of corn bread, hush puppies, spoon bread, grits, and other delectable dishes from corn, continue to receive benefits from work done for the good of the public through this project.

"Elevators keep rodents out and preserve the quality of the grain"
NEW AGRICULTURAL ENGINEERING BUILDING GOING UP

Expansion of Agricultural Engineering Department Underway

Clemson’s new modern Agricultural Engineering Building, which is under construction on Jersey Lane, will cost approximately $250,000. The contract for construction was awarded to Brissey Lumber Company of Anderson, and it is estimated that the new structure will contain approximately 30,000 square feet of floor space. Architects for the project are Oliver and Dickson of Columbia, South Carolina.

The new building will contain five classrooms, two research laboratories, an auditorium seating approximately 200 persons, and five student laboratories for instruction in the various applications of engineering principles to agriculture. This modern T-shaped structure will be used to replace an old frame farm machinery building which was built in 1910 when Clemson’s total enrollment was less than 1,000 students, as compared with the present student body of 3,300. The old building originally had a dirt floor and still has no heating facilities. Each year students poured a little more concrete, until now the entire structure has a hard surface floor. Old grads identify themselves by how much concrete was poured when they were there.

The exterior of the new building will be of face brick and cast stone trim. It will be provided with a modern system of fluorescent lighting, and provisions will be made for electric service to many items of motorized equipment which will be operated. Construction of the building will be non-combustible throughout, having walls of brick masonry with reinforced concrete columns and beams, steel joists and roof trusses, and floors of concrete on grade or steel supports.

An unusual feature of the building will be large plate glass windows and doors at the main entrance, through which displays can be seen in the central laboratory. It will be heated by radiant floor panel system in the central portion of the building and by steam unit heaters in the...
Shown above is the floor plan for the Agricultural Engineering Building. (Plan scaled down for THE AGRARIAN, courtesy of Professor W. P. Law)

large open areas, using steam from the central college heating plant.

The building was made possible by an appropriation passed by the 1948 session of the South Carolina General Assembly.

The Agricultural Engineering Department was formed in 1931, being a division of the Agronomy Department prior to that date. Professor George B. Nutt came to Clemson in September, 1932, and has been head of the department since. The present Agricultural Engineering staff consists of six full time professors, four research workers, and four research workers at branch experiment stations.

Research activities of the Agricultural Engineering Department include mulch farming machinery, mechanized cotton production, sweet potato planting and harvesting machinery, sweet potato storage, and fence post preservation. Other activities include electrically heated plant beds, electrically heated sweet potato storage houses, mulch farming, and irrigation of field crops.

Approximately 200 students have graduated in Agricultural Engineering since 1933, and it is estimated that approximately 45 students will graduate this year.

Shown above is the site of the new modern Agricultural Engineering building. (Photo by B. K. Eargle, Official Extension Photographer)
BETWEEN

Pictured above, Professor James B. Cooper discusses his new poultry textbook with Alfred Cureton, student at Calhoun-Clemson High School. (Photo by Kenneth Kay)

COOPER AUTHOR OF POULTRY TEXTBOOK

Professor James B. Cooper, Associate Professor of Poultry Husbandry, and Associate Poultry Husbandman for the S. C. Experiment Station, is the author of a poultry textbook released this month by the publishers, Turner E. Smith & Co., Atlanta, Georgia.

The title for this 487 page book is Poultry for Home and Market. Professor Cooper's book is one of few on this subject to be written by a southern author. This textbook, which is primarily to be used in vocational agricultural classes, is the first book on poultry to be published in 1950.

Professor Cooper received his B.S., and his M.S., at the University of Kentucky. Before coming to Clemson, he was connected with the Georgia Experiment Station at the University of Georgia.

HUSMANN OBTAINS LEAVE OF ABSENCE

Dr. W. Husmann, Professor of Agricultural Economics, has obtained a leave of absence until June 30, 1950. He will spend April and May making observations on the European Recovery Program, with emphasis on Germany, Holland and Denmark.

Dr. Husmann, a graduate of the University of Berlin, has been in this country about 12 years having taught first at V.P.I., and coming to Clemson in 1946.

TAYLOR WINS BORDEN AWARD

Calvin C. Taylor, Agricultural Economics senior of Greenville, has been named the winner of the 1949 Borden Award. The award of three hundred dollars is given annually to the agricultural senior with the highest scholastic average, and having included in his curricula two or more dairy subjects. Taylor is the first Clemson student to earn the award who did not specialize in dairy husbandry. The Borden Award is established at 23 colleges and universities in the United States. Their purpose is to stimulate and recognize scholastic achievement by the undergraduate students of agriculture.

ATTENDS SCIENCE MEETING IN NEW YORK

Attending the convention of the American Association for the Advancement of Science, which was held in New York City, December 27 through 31, from Clemson were Dr. H. P. Cooper, Dean of the School of Agriculture, and Dr. R. W. Rutledge, Associate Professor of Botany. Others attending from the experiment stations were: Dr. W. F. Chamberlain, Associate Entomologist; Dr. Robert Aycock, Associate Plant Pathologist for the Edisto Experiment Station; and Dr. W. M. Epps, Associate Plant Pathologist at the Truck Station near Charleston.

ELECTED TO BLUE KEY

Professor George B. Nutt and W. B. Boykin were recently elected to Blue Key, national honor leadership and service fraternity. Professor Nutt is Head of the Agricultural Engineering Department. Boykin, an Agronomy senior of Boykin, S. C., is Chancellor of Alpha Zeta, national honorary agricultural fraternity, and President of the Agronomy Club.

THE AGRARIAN
Clemson Men Attend Convention

When the 47th annual convention of the Association of Southern Agricultural Workers met in Biloxi, Mississippi, February 9, Clemson was well represented. The group attending from this state was composed largely of workers from the Experiment Station, Extension Service, and Soil Conservation Service.

The theme of the three-day meeting was, "The South's Agriculture is on the march — let's tell more about it." Many subjects related to agriculture were discussed in the various groups into which the convention was divided. Dr. R. F. Poole, President, Clemson College, was a member of the executive committee, and J. M. Eleazer, Extension Information Specialist, was chairman of the agricultural editors section.

Among those from the Clemson staff who gave reports were Dr. H. P. Cooper, Dr. G. H. Aull, Dr. G. M. Armstrong, L. O. VanBlaricom, Weber Peterson, J. A. Martin, R. A. McGinty, C. L. Morgan, M. A. Boone, and C. P. Williams. Also included on the program were Dr. T. C. Peele, J. P. LaMaster, Dr. W. A. King, and H. J. Sefick.

Henry Simmons, Clemson Experiment Station Editor, participated in a discussion panel on The National Farm and Home Hour in a nation wide radio hook-up. The topic of discussion was, "Southern Agriculture on the March". Mr Simmons discussed new advances in southern agriculture, some of which were mechanization, pasture irrigation and new crops of the South.

Bryan Wins Essay Contest

William J. Bryan, a January Animal Husbandry graduate, is the 1949 winner of the annual Swift college essay contest. Bryan made a trip to the International Livestock Exposition, and represented South Carolina at a four day livestock marketing study held by Swift and Co. in Chicago, Illinois. Thirty-four college representatives from thirty-four agricultural colleges throughout the nation participated in the marketing study. The contest winners were all guests of Swift & Co.
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Agrarian Philosophy

By
The Editors

We regret very much that this issue is late, but we assure you that it was due to circumstances beyond our control. We will do better next issue—we hope.

Clemson is indeed growing . . . .

Everywhere you look around the campus you see a new building going up, or a herd of bulldozers clearing ground for a new project. There's the housing project, and the Clemson House, but we of the School of Agriculture are particularly proud of the new Agricultural Engineering building which is already under construction. An ironic incident occurred when the construction people moved in to break ground for the new structure. As they were removing soil for the foundation a water main was hit and for a while it looked like a preview of the Hartwell dam. Water and more water! Imagine, and an engineering building too.

We hope it won't be too long before construction crews scratch the ground for the new Animal Science Building.

Save That Soil

Speaking of removing soil reminds me of something I saw the other day; in fact, something I see quite often. While driving down a country road, I saw a crew preparing a road bed for hard surfacing. They had scraped all the good topsoil from several acres of productive land to put on this road. Granted, we need good farm-to-market roads, but we must not sacrifice good soil to improve them. That's as bad as the man who used the walls of his house for fire wood, until one day he didn't have any house. The farmer certainly won't have any farm if he keeps donating his soil to every "needy road". The farmer should realize that his land is his heritage, and that he has no moral right to abuse it. Looking at the situation from a wider scope, the land owner is merely a custodian to posterity, and he owes to succeeding generations, the land in as good condition as it was when it came into his possession. Remember, Mr. Farmer, "as the man treats the soil, so shall the soil treat the man".

We're Homeless

Evidence of the crowded conditions and inadequate space in the School of Agriculture is the fact that the AGRARIAN has practically been turned out to pasture, as is shown in the illustration. Although we are not actually out in the cold yet, we've gotten our eviction notice to move our office from our present nook in the basement of Long Hall. We hope that the new staff will succeed in securing an adequate AGRARIAN office, both for meetings and a place for the staff to work.

Stop That Skinner

Cheating—that's a ticklish subject, a subject that we've heard a lot of talk about, but very little done about. Every school has that heterogeneous few who stoop to unfair means to obtain information during quizzes and exams. And Clemson, we regret to say, has its share of this group. Since we don't have any form of honor system in most classes, we believe that the only answer is for the professors to be more strict—much more strict. Many professors are just too lax in examination discipline. When a student is taking an examination with a group where it is very evident that "skinning" is going on, and obvious that the professor knows it, his attitude is, "What's the use". If a professor fails to call down dishonest students, it's only natural that this undermines the morale and character of the normally honest student. Consequently, he is tempted to resort to unfair means, too. Professors, give it a thought.

JANUARY 1950

THIRTEEN
The Inside Story on
Clemson’s Agricultural Education
Graduate Program

Clemson has known and shoulder-
ed the responsibility of preparing
men for the teaching profession for
many years. The administration has
also come to realize that every year
the importance of teachers in the
progress of any society is becoming
more and more prominent. It is for
this reason that Clemson now has a
completely staffed Graduate Pro-
gram in the School of Vocational
Education.

The administration of the training
of teachers involves two very defi-
nitely related fields. In the first place,
the profession of teaching brings one
in direct contact with one of our
greatest public institutions — the
public school system. Today as nev-
er before the United States Govern-
ment assists thousands of students
and many school systems and insti-
tutions. To understand and co-op-
erate with all of these agencies is a
responsibility of school administra-
tor and teachers.

One of the problems which school
people should consider constantly is
that of subject matter. The scientist
through graduate work and research
is constantly expanding and review-
ning many aspects of teaching. In
graduate work for teachers it is nec-
essary that the teacher have a high
regard for his “subject matter” field.
In the training of agriculture teach-
ers, the School of Agriculture and
The Agriculture Experiment Sta-
tions offer great possibilities for the
advancement of knowledge in this
area. To teachers who strive to help
pupils to interpret and apply the
findings of scientific research gradu-
ate study at Clemson offers an op-
portunity to help these teachers be-
come better prepared for this respon-
sibility.

In graduate work at Clemson, one
unique feature is a course which has
been given for the past two sum-
mers. While the graduate students
are here for a six weeks summer
term, they make an intensive study
of some particular subject that has
been assigned to them by the head of
the department of Agricultural Ed-
ucation or the instructor concerned.
When these teachers return to their
school communities, they continue
for six more weeks to follow up this
study and finally they analyze the
problem under consideration and
make a report on it. The pattern of
this work, Dean W. H. Washington
of the School of Education says,
could perhaps be followed in the In-
dustrial and General Education field.

By R. K. WEST
Vocational Ag. Education '51

Dr. R. F. Poole, President of Clem-
son College, has acted as Chairman
of the Graduate Committee until the
recent appointment of Dr. H. J. Web-
b to this position. A repre-
sentative from each school is ap-
pointed to serve on this committee in
order that each school might present
the problems that concern them.

Before being admitted to the Grad-
uate School a student must have the
Bachelor’s degree from an institu-
tion with a scholastic rating satis-
factory to the college. He must also
have an average undergraduate
grade of B or better in his major
field. After these things are consid-
ered, the applicant must make an
application to the Chairman of the
Graduate Committee after first hav-
ing received permission from the
Head of the Department in which
the major work is to be taken. The
application is accompanied by a
transcript of previous college work.

The graduate work consists of a
minimum of 30 semester hours of
which six semester hours must be in
research and thesis work. Of the re-
main ing 24 semester hours, at least
12 hours must come from graduate
courses which are numbered 500 or
above. In addition to these major
subjects, all graduate students are
required to take 12 hours of minor
courses in other departments, and
a seminar course in methods of re-
search and their application to their
research problems.

All students in graduate work are
required to write a thesis which will
be acceptable to the Graduate Com-
mittee. The topic selected for thesis
work is selected by the student and
must be approved by the Chairman
of the Graduate Committee. The
School of Education hopes that the
research work done by education
students on their thesis will prove
helpful in promoting education in
South Carolina.

In the professional education field,
Dr. T. A. White spends much time
assisting graduate students. Heads of
the three departments of teacher
education are: Mr. J. B. Monroe, Vo-
cational Agricultural Education; Mr.
J. L. Brock, Industrial Education;
and Mr. J. B. Gentry, General Edu-
cation. These three men spend much
time in counseling graduate and un-
dergraduate students in problems
pertaining to education. Ten men
are enrolled in Graduate work at
this time in the Department of Agri-
cultural Education.

FOURTEEN

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No expensive equipment is necessary to do a good job right on your own farm. Any metal container such as two old steel drums welded together can be used as a treating vat.

ANTIROT is simple to use. Dilute 1 gallon with 10 gallons of fuel oil, agitate to obtain a uniform mixture and you’re ready to begin treatment. Place posts to be treated in vat containing the dilute ANTIROT and allow to soak 48 hours.

The cheapest post will then give you years of service, eliminating the expensive repair and replacement of fences.

* 

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MANUFACTURERS, FORT VALLEY, GEORGIA
Scholarship Winners at Clemson

Four outstanding 4-H Club boys who have won scholarships because of their records of achievement are now majoring in several fields here in the Clemson School of Agriculture.

Three of these awards were provided by the Esso Standard Oil Company. Each year this company, in cooperation with the 4-H Clubs of America, presents 23 scholarships in as many states, each paying $100 a year for four years, to farm boys who are outstanding in 4-H Club activities and have a scholastic standing in the upper half of their respective classes. One of these scholarships is awarded each year in South Carolina. The three winners of these scholarships now at Clemson are Frank M. Flowers, agricultural husbandry junior from Greenville; Robert M. Prince, Jr., agricultural engineering junior from Lyneburg; and Robert W. Dozier, agricultural engineering freshman from Marion.

Another 4-H scholarship winner is John F. Welter, sophomore poultry major from Greenville, who received an award from the Dearborn Motors Corporation because of his record as a national 4-H poultry achievement winner.

Frank Flowers’ record includes over seven different types of project demonstrations. Because of his well-rounded record he was chosen to represent South Carolina both at the National Club Congress in Chicago and the National 4-H Club Camp at Washington, D.C. He is also a past president of the State 4-H Council.

Robert Prince was president of his community 4-H Club for three years and vice-president of the Lee County 4-H Council for two years. After coming to Clemson, he also won a freshman Sears Roebuck scholarship, and this year won the sophomore Sears scholarship award of $200 by having the highest grade point ratio among the twenty winners of the freshman awards. He will also be given a free trip to Chicago this spring and a chance to compete for three national Sears junior and senior scholarships.

By H. M. SIMONS, JR.
Asst. Experiment Station Editor

Robert Dozier was president of his community 4-H Club for three years and served as president of his county 4-H Council for two years. An outstanding student in high school, he took an active part in school clubs and athletics and stood second in his senior class.

John Welter has participated in seven different types of 4-H projects and his 4-H poultry and other clubwork resulted in his growing 3,000 chicks and 500 laying hens in partnership with his father last year. He has served as officer of his county 4-H Council, county 4-H club and local 4-H organization, as well as having represented his county in a number of state meetings.

DENHAM JOINS AGRICULTURAL ECONOMICS STAFF

Sidney B. Denman has joined the staff of Agricultural Economics and Rural Sociology, as Assistant Rural Sociologist. Mr. Denman will teach and do research in Rural Sociology. He is a native of Mississippi, and was educated at Mississippi State, Tulane, and Duke University.

HORTICULTURAL CLUB ELECTS NEW OFFICERS

In a recent election the Clemson Horticulture Club elected its new 1950 officers. G. T. Leonard of Asheville, N. C., was elected president, succeeding Lee DeYoung who graduated in February. Also elected to office were Huland Bowen of Westminster, vice-president; John W. Smith of Lancaster, secretary; and Lucius Hamilton, treasurer.
Famine Fighters

Much of the world is hungry, but we in America take "second helpings" for granted. Starvation stalks many lands, but well-fed Americans eat three "square" meals a day. We have no monopoly on sunshine, rain, and good soil, but our progressive farmers have made the words "America" and "abundance" synonymous.

It takes plenty of know-how and lots of hard work to produce bumper yields and record crops. With the help of favorable weather, modern methods, and machines, however, our farmers have worked this miracle many times the past few years.

These blue-jeaned famine fighters give modern power equipment much of the credit for multiplying the productivity of our land. Happily, it has done even more. Power machinery has made it easy for farmers to retain or rebuild precious topsoil by using the latest conservation methods. It has given our agriculture new vitality by encouraging thousands of mechanically-minded farm boys to seek their fortunes on the farm rather than in the city. By reducing the uncertainty and drudgery of farming, power equipment has made possible fuller, happier lives for farm families everywhere.

Arm men who love the soil with scientific methods and modern power machinery and you can expect great things: Better stewardship of the land . . . a more stable and productive agriculture . . . an even better-fed America . . . perhaps a famine-free world in the forseeable future.

JOHN DEERE
MOLINE • ILLINOIS
SUPER PASTURE
(continued from page five)

obtained from the addition of the ammonium nitrate, and in the future applications of 100 lbs., 200 lbs. and 300 lbs. of ammonium nitrate per acre will be tested to see which of the three is the most economical on the basis of increased quantity and quality growth of pasture.

About April 1st of this year, the cattle will be shifted to Mill No. 2, possibly for the entire summer. At Mill No. 2 there are 300 acres of pasture consisting of rye grass, crimson clover and Bermuda grass. Depending upon developments, some of the cattle may be sold this Spring, or they may all spend the summer at Mill No. 2 and be sold in the Fall.

At any rate, the cattle will be removed from their present location in order to allow the alta fescue to produce a seed crop. One-half of the alta fescue comes from certified seed and the pasture originating from the certified seed is separated from the pasture which originated from non-certified seed. The fescue seed obtained will greatly help to supply the needs of the State, for last year only one farm in South Carolina produced certified fescue seed for sale. Every effort will be made to combine the ladino seed.

All but three of the cattle now on hand are steers; consequently, it doesn't appear as though a breeding program is close at hand for the "Deering-Milliken Farm Project", and it seems probable that the mill will purchase feeders again next year. All of the future plans stated above are tentative, and doubtless changes will be made in any direction that indicates a higher profit combination for the Mill Farm Program.

The cattle weighed an average of 450 lbs. when placed on the pasture in November and are gaining a pound a day per head. Some hay is being fed at present as a supplement.

There can be no doubt as to the scenic value of the "Deering-Milliken Farm Project", but there is some controversy concerning its agricultural value. There are more cattle on the ladino-fescue pasture than the recommendation call for, and the fescue is being grazed lower than the minimum height for grazing, which is 6 inches. Some people feel that this over-grazing will cause a marked reduction in seed yields and pasture growth, while others think that with favorable climatic conditions and proper fertilizer and other farming practices the effect of heavy grazing will not be of a serious nature and that the increase in livestock gains will more than compensate for the over-grazing. It is impossible to say definitely what the residual effect of this heavy grazing will be, and only time will tell. At any rate, it should be emphasized that the Farm Project is still in the experimental stage and that future plans are tentative; consequently, it should be apparent that the Project is going to offer valuable information to any farmer in the State who plans to enter a similar winter-grazing program and who is interested in finding out the most profitable way to raise livestock.

Rastus was coming home late at night, and started up the stairs, but much to his dismay, one of the steps creaked and as he hesitated, he heard his wife say, "Who dat?" He didn't answer, but waited a few seconds, and then started up again and in two or three more steps, another creaked. This time a male voice said, "Who dat?" This was too much for Rastus, and he called out, "Who dat say dat second 'Who dat'?"

The bathing dress that grandma wore Looked like a Mother Hubbard; But girls who swim today look more Like Mother Hubbard's cupboard.
PIONEERS came with their axes, guns and hoes, their wooden plows, iron plows, steel plows, oxen and horses; and through hard work, unimaginable hardship and drudgery carved for themselves homes and farms from a rugged, new land. Their farming tools were in many respects quite the same as those used in Biblical times and not much better. But unlike the people of older times, men in this land had equality, opportunity, aggressive ingenuity, freedom from oppressive restrictions... time and opportunity to think and plan. And men prospered... invented machines to help do their tasks faster and better. The last 100 years was a period of sudden, swift progress... real progress... and it parallels the history of the farm machinery industry. More progress was made in the last fifty years than in all the ages before.

That progress continues under the American system of free enterprise and capitalism. Men who plan beyond tomorrow know that modern methods of agriculture will assure posterity of fertile, productive soil. That is why more and more progressive farmers demand MM MODERN TRACTORS, MACHINES, and POWER UNITS. They know that the MM trademark is the recognized symbol of highest quality since 1865. Today MM modern machines of proved dependability and economy... machines built to do the work with comfort, convenience, and safety enable the farmers of America to supply the world with food, fiber, and oils.

Today's farmers using modern methods and modern machinery are truly Pioneers of Progress!
FEBRUARY GRADUATES

George Seaborn of Walhalla, who graduated in V.A.E. in February, is now teaching farm veterans in Sumter.

W. C. Metts, a February V.A.E. graduate, is now teaching agriculture in McCormick.

R. J. Vermillion of Donalds, who graduated in V.A.E. in February is teaching veterans in Seneca.


Norman McFaddin of Easley, a February, 1950, V.A.E. graduate, is now teaching agriculture at Gables High School, Gables, S. C.

Geo. H. Baker, a February Agronomy graduate, has accepted a position with the Extension Service. Baker, who is from Cades, will become an assistant county agent after a short orientation of several weeks at Clemson.

S. T. Russel, Agricultural Engineering, '49 of Jamestown, is now doing graduate work in Agricultural Engineering at Iowa State College.

J. F. Canfield, of Greenwood, who is a February graduate, has accepted a position with the Ford Tractor Agency in Charlotte, N. C., as a field instructor.

S. P. Young of Dalzell, and P. L. Benfield of York, both February graduates have accepted fellowships at the University of Illinois. They will begin work there next month.

T. A. Warren of Prosperity, who graduated in February, has accepted a job as assistant county agent in Chester county.

R. S. McCants, a February graduate, is now connected with the Southland Provision Company of Orangeburg.

J. W. Ginn of Charleston, who graduated in February, is now an assistant county agent in Chesterfield county.

D. G. Haigler, A.H. February '50, is now farming near Cameron.

E. G. Wyndham of Moncks Corner, who graduated in February '50, is now farming.

E. L. King, a February Animal Husbandry graduate, is also farming, but plans to take Veterinary Medicine at Penn. State next fall.

Tom E. Wallace, a February graduate in Agronomy, has returned to Bennettsville to farm.

CLEMSON DELEGATE ATTENDS ALPHA TAU ALPHA CONCLAVE

Thomas E. Johnston of Moncks Corner was the Clemson delegate to the Alpha Tau Alpha National Conclave held in Atlantic City, New Jersey, during the American Vocational Association Convention.

Johnston was elected by the local Kappa chapter to be their representative. His expenses were paid by L. C. Martin Drug Company of Clemson, Johnston, a February graduate in Vocational Agricultural Education, is now teaching veterans in Cross, S. C.

OK Fellows, get on the ball and get the answers to the Chesterfield contest down to Harry Dukes in room 3-B29. First ten get a cartoon of free smokes. Be sure to read the directions... Editor.
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