IT TAKES EXPERIENCE TO SKIM THE SURF AT

40 miles an hour on one foot!

...and Champion NANCE STILLEY agrees that in water skiing—and in cigarettes too...

"EXPERIENCE IS THE BEST TEACHER!"

I NOTICE MORE AND MORE PEOPLE SMOKING CAMELS. THEY'RE GREAT!

I LEARNED BY EXPERIENCE... BY COMPARING... THAT CAMELS SUIT MY 'T-ZONE' BEST!

THE "T-ZONE" T for Taste... T for Throat...

your final proving ground for any cigarette

According to a Nationwide survey:

MORE DOCTORS SMOKE CAMELS THAN ANY OTHER CIGARETTE

When 113,597 doctors from coast to coast were asked by three independent research organizations to name the cigarette they smoked, more doctors named Camel than any other brand!

Let your T-Zone tell you why

More people are smoking Camels than ever before!

- Now that people can get all the cigarettes they want... any brand... now that they once again can choose their cigarette on a basis of personal preference... more people are smoking Camels than ever before.

Why? The answer is in your "T-Zone" (T for Taste and T for Throat). Let your taste... your throat... tell you why, with smokers who have tried and compared, Camels are the "choice of experience"!

CHOICE OF EXPERIENCE!
EXECUTIVE STAFF
Editor — — — S. E. McGregor
Co-Editor — — — L. D. Reynolds
Managing Editor — — — F. K. Norris
Business Manager — — — L. T. Judy
Advertising Manager — J. O. Gerald
Circulation Mgr. — W. W. Ballentine
Photographer — — — G. E. Hawkins

DEPARTMENTAL EDITORS
Agric. Economics — J. N. Young
Agric. Engineering — C. R. Allen
Agronomy — — — L. B. Smith
Animal Husbandry — H. Z. Woodfin
Entomology — — — W. R. Traylor
Dairy — — — — — — A. S. McKay
Horticulture — — — L. B. DeYoung
Vocational Agricultural Education — — — D. A. Barfield

ASSISTANT STAFF
W. R. Alexander, J. M. Gaston,
J. P. Gaston, T. R. Hawkins, G. H.
Liebenrood, D. P. Plyler.

ADVISORY BOARD
Prof. B. E. Goodale — Chairman
Dr. G. H. Aull

THE AGRARIAN — published in November, January, March and May by the under-graduate students in the School of Agriculture. Opinions expressed in this magazine do not necessarily reflect the policy of the School of Agriculture or the College.

All correspondence should be addressed to The AGRARIAN, Clemson College, Clemson, S. C.

No article may be reprinted without permission.

SUBSCRIPTION FREE

COVER — Dr. H. P. Cooper, Dean of the School of Agriculture, congratulates Gilbert Hardee on his graduation. Gilbert plans to work toward a graduate degree in Agricultural Economics at the University of Kentucky.

CONTENTS
Agricultural Opportunities in Industry——— 3
More Graduate Work at Clemson——— 4
1948 Graduates of the School of Agriculture —— 4
A True Native of the Old South——— 5
The Agrarian Presents — Dr. Victor Hurst —— 7
More Purebred Sires Needed in State——— 9
Between The Furrows ———— 10
Agrarian Philosophy ———— 13
Diesel Engines Versus Carburetors ———— 14
Fertilizer Inspection in South Carolina ———— 16
Snoopin' Among The Aggies ———— 18
Where Are Last Year's Graduates? ———— 20
Set Your Sights on High Producers

- All your art as a cattle-feeder . . . all the costly corn, concentrates and high-quality hay you feed your steers or heifers . . . cannot bring high returns unless you begin with calves bred for beef. In their background of breeding must be the capacity to convert coarse feed into fine food.

Yet the figure that counts in the end is not the weight of beef per bushel of feed. It is rather the dollar-value per hour of human toil—not only in care of the herd but also in growing the feed. It's the over-all yield per man-hour.

Case tractors and farm machines have the background . . . you might call it the breeding . . . of 106 years' experience. They are developed to get more farming done per day of work, to boost the final yield per man. Count on Case machines as you plan your farming career. J. I. Co., Racine, Wis.

From windrow to wagon, the Case Slicer-baler puts up hay with less labor per ton. Its gentle pick-up and side feed save more leaves, preserve more protein. Sliced-Hay bales need no tearing apart, minimizing leaf-loss at the feedlot, adding to the yield of meat or milk per acre and per man-hour. It's the baler used by more farmers than any other. It's so low in cost that most any farmer can have his own.
Agricultural Opportunities in Industry

Opportunity for the agricultural graduate is practically unlimited as far as private industry is concerned. Though there are no statistics available, more and more agriculture specialists are turning to industry as an enjoyable and well-paying outlet for their talents. I believe more and more boys entering agricultural colleges today have industry in mind and plan their courses accordingly. On the other hand there are still large numbers, like myself, who broke into business organizations more or less by accident.

It would be impractical to advise you as to the course you should take if you are planning an industrial career. The main reason for my saying this is that the jobs are too varied.

They range from anything to pure horticulture research as done in our special Birds Eye frozen food laboratory in Albion, N. Y., to the position I recently held as plant manager of a plant.

But let's review a few opportunities: (And I think the best way is to give a few specific examples.)

I mentioned the horticulture lab, we maintain for our frozen foods. You might ask what such a group could find to keep itself busy day in and day out. My answer is "plenty."

Just one item that the Birds Eye horticulturists turned up came from an intensive study of green peas. Though there are more than one hundred varieties of green peas which can be grown on the ordinary truck farms, only four are desirable for high quality quick-frozen products. After the boys had confirmed this information, they found themselves faced with the big job — that of informing the farmers what varieties Birds Eye would buy.

This meant that the Birds Eye "farm agents" whose annual mileage in rural areas runs into tens of thousands of miles had an education job on their hands. Farm agents — why yes, that's another job for you future graduates of Clemson Agricultural School. These men supplement the work of the state men.

At our Igleheart plant in Evansville, Indiana we are anxious to secure a certain quality soft wheat. The only way we can get farmers to grow this wheat is to tell them about it. So, Igleheart in cooperation with Purdue University maintains another "farm agent" to transmit knowledge of wheat to the farmers of eight southwestern Indiana counties. Contests are even conducted among wheat farmers with the "Igleheart watch" going to winners, and scores of lesser prizes going to fathers as well as to 4-H clubs.

Industry offers golden opportunities for experts on all grains or food animals. Most industries have their own buyers. If they don't, large brokerage concerns do have constant call for trained men to do this important job of acquiring raw materials.

General Foods has eight research laboratories and 42 control laboratories. Work done in these laboratories varies from basic to applied research. Thus any graduate will find a great deal of company among the men who are now working as food technologists or bio-chemists throughout the research system.

Most packaged food products are derived from plants. All along the lifeline from the farm to the finished product there are openings for experts on all phases of food.

Along our production lines we must have experts who know what types of wheat can be blended to make good flour or what coffees contribute to the blend consumers like best, or which teas will produce a blend that will increase sales.

Merchandising activities might not seem to be a possibility but if you have a bent for writing don't overlook it. The good advertising copy is based on fact. This is also true about publicity material. So, if you decide to become a writer, get in on the technical side; your many hours of study won't be lost.

There is a place in industry for you. Don't go into it with the idea you are in for one of those soft, swivel-chair jobs. You better plan to work harder because industry is in business for keeps — its livelihood depends on what you and the other individuals produce. What you do has to be good — in fact it has to be more than just good, because you are competing directly with the fellow who has a job like yours with another company.

If you are yearning for a life of hard work — filled with plenty of security, combined with personal advancement — turn to industry. Its opportunities are almost endless.
Dr. Poole Urges More Graduate Work at Clemson

Everywhere, in colleges and in industry, men of vision and of high intellectual attainment are being sought. It seems inevitable that this is a normal process in keeping with progress and the needs of men who will solve the problems which seemingly are increasing in our state and nation.

The men in greatest demand are for the most part a product of graduate schools. It is in these schools that their intellectual curiosity and their search for truth have wide range. Clemson must now enter this field of higher education.

In the first place, a graduate school could materially stimulate the faculty by broadening their scholarly and scientific horizons and indirectly increase their interest in undergraduate teaching. Secondly, it would enable students qualified for graduate work to match their inspirations in a manner with creative attainments.

The policy of aiding to and strengthening the work of each department rather than adding new curricula in the undergraduate field fits into the plans for graduate work. The chief interest must by necessity center around the Master of Science degree, but there will be opportunities in certain departments for candidates to work for the Doctor of Philosophy degree.

A strong graduate committee has been at work for nearly two years perfecting the program and it has already adopted methods of procedure and approved courses. The committee has not yet selected a graduate faculty but has given some attention to the question of who shall be allowed to offer graduate work.

Many Clemson graduates have gone elsewhere to do graduate work. A graduate program at Clemson would encourage more of them to study in the prominent graduate schools of the nation and at the same time place Clemson in its rightful position with other recognized institutions of the nation.

1948 GRADUATES OF THE SCHOOL OF AGRICULTURE

Agricultural Economics

Agronomy

Animal Husbandry

Animal Husbandry and Vocational Agricultural Education
M. P. Zuver

Dairy

Entomology

Horticulture

Agricultural Engineering

Vocational Agricultural Education
A True Native of the Old South

The southern highbush blueberry possesses many unknown outstanding qualities which if properly cared for may make its production profitable for commercial uses.

The southern highbush blueberry, commonly called the rabbit eye (Vaccinium ashei), is as truly a native of the old South as a bona fide mint julep, and can trace its southern ancestry back long before the advent of that aristocrat of southern refreshments. However, until recent years much more energy was expended on taming and refining the mint julep than the rabbit eye.

Native to areas of north Florida, south Georgia and southeast Alabama, the rabbit eye has long been a delicacy of the wild, and is sought after for such practical purposes as blueberry pie and just plain good eating. Growing to a height of 15 feet and bearing its berries in clusters, the wild rabbit eye can be found growing under both upland and lowland conditions throughout the deep South.

More than 3,500 acres have been planted to rabbit eye blueberries, principally in north Florida, but also in North Carolina, South Carolina, Alabama, Georgia, Mississippi and Louisiana. However, these plantings were largely of transplanted bushes from the wild and did not produce fruit of the uniformity or equality necessary to create an established commercial industry.

Limitations of the wild rabbit eye as a commercial fruit include such characteristics as seediness and grit cells, late ripening, long picking season and dark blue to black color. The rabbit eye possesses several outstanding qualities, however, which make it highly desirable to breed varieties suitable for commercial production. Among these merits are heat and drought resistance, extreme vigor and its fine scar.

Agricultural research workers and plant breeders of the U. S. Department of Agriculture Bureau of Plant Industry and southern state experiment stations have been engaged since 1940 in the selection and breeding of wild rabbit eyes in an attempt to eliminate undesirable characteristics and establish named varieties suitable for commercial production and small fruit plantings in home gardens.

The first crosses of wild rabbit eye plants selected for their superior qualities were made by the Bureau of Plant Industry at Beltsville, Maryland in 1940. Progress has been making rapid and several named varieties possessing superior fruiting qualities have been developed.

H. J. Sefick, associate horticulturist at Clemson, is at present engaged in adaptation studies for South Carolina of known crosses made at Beltsville. Five hundred seedlings have been raised at Clemson from these crosses, and 5 plants each of 20 different seedling selections were set out this year, as well as 3 named varieties through the cooperation of the Bureau of Plant Industry and the Georgia Coastal Plains Experiment Station at Tifton, Ga.

Six year old seedlings of known (continued on page 7)
These FACTS tell you Why...

Firestone CHAMPION GROUND GRIPS OUT PULL ALL OTHER TRACTOR TIRES

The Champion Ground Grip Outpulls Because ... It cleans better. Its curved traction bars flare out from the center to make a wide open unrestricted exit for mud and trash. There are no broken center trash catchers.

The Champion Ground Grip Outpulls Because ... The Triple-Braced traction bars take a full, firm bite right in the heart of the traction zone. There are no broken center traction leaks.

The Champion Ground Grip Outpulls Because ... The tread bars are higher — up to 24% higher to take a deeper, firmer bite. Of course, higher bars last longer.

The Champion Ground Grip Outpulls Because ... The tread bars are longer — as much as 256 inches per tractor. Greater tread bar length naturally gives greater pulling power — and longer wear.

The Champion Ground Grip Outpulls Because ... The traction bars are higher at the shoulders for reserve pulling power, especially in soft ground where it needs the extra pulling power of an extra bite.

The Only Tire That Takes a "CENTER BITE"

Put CHAMPION Ground Grips on Your Tractor
LET THE TEST TELL THE TRUTH

Copyright, 1918, The Firestone Tire & Rubber Co.
Dr. Victor Hurst

Clemson’s Only
Endocrinologist and Physiologist

By FRED K. NORRIS
Agricultural Engineering, 1948

Dr. Victor Hurst, one of our most recent additions to the Dairy Department faculty, was born in Rutherford, N. J. and attended public schools there until his graduation from Rutherford High in 1933. Dr. Hurst then entered Rutgers University. Here he decided to major in Dairy Husbandry. His interest in this type of work was influenced by his work during his summers in high school. His work on his brother’s farm as well as working with Herd Improvement and Advanced Registry testing influenced him in deciding to do this type of work.

Dr. Hurst was very outstanding in extra curricula activities while at Rutgers and especially in his professional line of work. He was on the track team for four years and captain of the team his senior year. This earned him membership in the honorary track fraternity, “Spike and Shoe”. Perhaps of more value to him in later life was the winning of the “Best Senior Award” presented to him by the Rutgers Chapter of Alpha Zeta, honorary agricultural fraternity of which he was Chancellor.

Dr. Hurst graduated from Rutgers University in 1938 and accepted a position there as Graduate Assistant to work on his Master of Science Degree. He worked on this degree for two years and earned for himself membership in the top honorary scientific fraternity, Sigma Xi. He finished his Master of Science Degree in 1940 and accepted a position as Research Assistant at the University of Missouri. Here he worked in research and on his Ph.D. degree at the same time under the noted dairy scientist, Dr. C. W. Turner. His work was interrupted in 1942 and he resigned his assistantship to join the Coast Guard in which he served 4 years.

Upon his discharge from the Coast Guard in January, 1946 he continued where he had left off work on his Doctor’s degree and finished it at the University of Missouri in January, 1948. Immediately following his work there he attended an Artificial Insemination course at Cornell University before coming to Clemson in April of this year.

When asked why he decided to come south and work at Clemson he said he believed that the South had the greatest potential for dairying because of its large amounts of permanent pasture and relatively cheap labor. Another question which came to mind was to ask him exactly what his position was here at Clemson and he answered with Physiologist and Endocrinologist—I let it go at that. He also stated that his work also involved research with Artificial Insemination which was started in this state in 1945, and is carried on here at Clemson in a special project.

Dr. Hurst has also distinguished himself in his field, being a member of Gamma Sigma Delta (honorary agricultural fraternity) and recently the South Carolina Academy of Science.

While new at Clemson himself, Dr. Hurst has stepped right in line with his work here and is making outstanding progress and improvements in the field of artificial insemination with dairy cattle.

Rabbiteye Blueberries
(continued from page 5)
crosses have yielded from 5 to 61/2
quarts per plant at Clemson despite
dry weather which reduced size.

It has been found that the rabbiteye blueberry prefers an acid soil with a pH ranging from 4.5 to 5.5. Well drained, loamy sand soils liberally supplied with humus and retentive of moisture are ideal for this crop. However, the plants are growing well at Clemson in gravelly, sandy clay loam of pH 5.7 to 6.3. Mulching increases vigor and yields in upland soils.

Named rabbiteye varieties have been secured in small plantings by at least 15 South Carolina farmers this year. With current breeding work and adaptation studies of Mr. Sefick and others showing great promise, it may not be long before farmers can have a new cash berry crop and home gardeners can have a blueberry pie right in their back yard. It’s even possible that comedians and radio announcers will have an eighth “delicious flavor” of their sponsor’s product to chant across the air waves of the nation.
FOR BEST RESULTS
Plant ANDCO Seeds
Feed ANDCO Feeds

ANDCO
Feed and Seed Company
J. W. HARE, SR.  J. W. HARE, JR.
Anderson, South Carolina

Coker's Pedigreed Seed Co.
The South's Foremost Seed Breeders
HARTSVILLE, SOUTH CAROLINA

THE EPTING DISTRIBUTING COMPANY
Leesville, South Carolina

Dealers and Processors
FINE FARM SEEDS

Manufacturers
FERTILIZERS AND AGRICULTURAL INSECTICIDES

Distributors in South Carolina
TENNESSEE BASIC SLAG
More Purebred Sires Needed in State

The Basis for Needed Improvement in Beef Herds In State Lies With The Securing of Better Bulls

South Carolina is one of a large group of states whose production of meat animals fails to supply the needs of its consumers for this item of diet. At the present time there is an urgent need for a marked increase in livestock production to meet the demands of a growing population. Obviously, a feasible and desirable way to achieve this end is the utilization of more purebred sires in the herds and flocks of this state.

Varied results of many experiments and all past experience show that there are certain positive, worthwhile, and economical features accruing from the use of purebred sires. Briefly, animals sired by a purebred sire have a greater earning capacity, mature earlier, give greater expression to characteristics typical of the breed to which the sire belongs, are less subject to the ravages of disease, and command higher receipts on the market.

Beef animals sired by a purebred have a thirty-seven percent greater earning capacity than those sired by a scrub. Comparing the receipts from an animal sired by a scrub bull and one sired by a purebred bull, on the basis of weight and price at the time of marketing, it is found that the latter calf is more valuable than the former by approximately $35.00. This is true because the calf sired by the purebred animal attains market weight sooner, has more scale, and usually sells at a higher price. The production of twenty-five calves in a year ordinarily would pay for a purebred sire in one year, considering the figure mentioned above.

A purebred sire is prepotent and the offspring will bear more characteristics peculiar to him than those of the scrub. This is nothing more than the positive expression of the genetical factor that like produces like. Increasing the desirable qualities in a herd can be achieved easily within three or four generations. One mature bull can service about fifty cows, and this makes for the transmission of his characteristics throughout all the offspring of the entire herd. The use of a purebred sire soon brings the genotype and phenotype of one's herd up to what almost duplicates the purebred.

The use of purebred sires improves the herd to such an extent that the producer invariably manifests such an interest in his herd as to greatly reduce losses through disease and mismanagement. Herds of pronounced blood lines more frequently are tested for such diseases as “Bang’s” and tuberculosis; in short they’re not left to shift for themselves on the wholesale scale as are scrubs.

Lastly, it is highly important to consider this matter from an aesthetic standpoint. The animal carrying blood from a purebred sire is always the animal most pleasing to the eye. A herd of this kind will continually enhance the owner’s interest, and desirable attainments within the herd would spur the producer to greater activity. There is always that something about the “best” in any field that makes room for the element of pride to grasp success when other mediums have failed. Animals displaying superior breeding to that of the scrub demand the best in feeding and management, and the production methods and practices that will require the more proper and adequate treatment and utilization of the soil. The use of purebred sires in the herds and flocks of South Carolina will tend toward the more complete realization of a largeness, fullness, and completeness in the agriculture of this State.

There has been noted improvement in the “grading” of livestock in South Carolina during recent years. However, more effort in this respect would be highly beneficial to agriculture in this state now and in the future. Improving of the blood lines of South Carolina’s livestock will work toward the confirmation that “Agriculture is not merely a means of making a living, it is also a method of life.”

By HARRY FALLS, Jr.
Animal Husbandry, 1949

One of the purebred Polled Hereford bulls in the Clemson herd, Battle Domino 11th.
BETWEEN THE

STUDENTS ATTEND FIELD DAY

On May 12, the students majoring in Agricultural Engineering and the faculty from that department journeyed to Winder, Georgia to observe the Master Conservation Field Day held on the Carlyle-Blakely farm. The demonstration which was a continuous all-day demonstration on land use and soil and water conservation practices was sponsored jointly by the Supervisors of Oconee River Soil Conservation District, Winder Civic Clubs, and The Atlanta Journal.

Over 600 men and all types of machinery and equipment made possible the biggest farm demonstration the South has ever seen. Completed in one day, an eroded, run-down farm was renovated into a modern, pastured and stocked farm. Eroded gullies were filled by dynamiting, fields were terraced, plowed, limed, fertilized, and seeded in pasture grasses. Irrigation equipment to supply a large portion of the farm was set up and completed. Power saws were demonstrated for thinning small timber and cutting pulp wood as many acres of woodland was cleared. Barns were constructed and painted, and the 168 acre farm was fenced and cross fenced for cattle. Drainage channels were straightened, and a two-acre fish pond was constructed and stocked with fish.

This demonstration was made possible thru the various farm equipment companies who used different sections of the farm to demonstrate their most modern machinery under actual operating conditions. This equipment was furnished by branches of the various companies in Winder and nearby Atlanta.

Featured on a formal program held in the afternoon were addresses by Governor M. E. Thompson; Dr. H. H. Bennett, Chief, Soil Conservation Service, Washington, D. C.; Wright Bryan, Editor, The Atlanta Journal; and Rev. E. H. Collins, who presided at the program.

DAIRYING SENIORS TOUR SOUTH

On Thursday, April 8 nine senior students majoring in dairying left on a four day trip to all the major dairy plants and farms in the southeast. Students making the trip were L. D. Carter, R. M. Hanckel, J. E. Pettigrew, W. A. Smithwick, S. M. Frazer, C. J. Senn, C. M. Shuman, J. F. Causey, and M. B. Smith. This group was accompanied by Prof. B. E. Goodale.

The first stop on this trip was Greenville, S. C. where they were conducted through the Pet Milk Co. plant and Leake Brothers plant. After leaving Greenville, the group journeyed on to Asheville, N. C. where they visited the modern dairy barns of the Biltmore Estate, which is one of the few millionaire estates in the United States that is making money. Also at Asheville the group visited the Southern Dairies and Skyline Dairies plants.

Friday afternoon, the tourage traveled on to Greenville, Tennessee, where they spent the night. The next morning they visited the Pet Milk condensery plant and the Greenville Milk Plant. One of the highlights of the trip was the visit to the University of Tennessee where they met some of the faculty and students in the dairy department there.

Other places visited included the million dollar Foremost Dairies plant, Reigeldale Farms, Happy Valley and Greenfield Jersey Farms and the dairy department at the University of Georgia. The only regrettable incident occurred at the University of Georgia where they saw the University of Georgia baseball team defeat the Clemson nine.

ANIMAL HUSBANDRY CLUB OFFICERS

At a meeting of the Animal Husbandry Club held on May 25 the following officers were elected: President, H. Falls; Vice-President, J. G. Dinkins; Secretary, W. W. Gaston; Treasurer, H. B. Craig; Social Director, G. P. Lachicotte; Publicity Director, N. R. Sites.
FURROWS

NEW ALPHA ZETA OFFICERS

At a meeting held recently of The South Carolina Chapter of Alpha Zeta, which is the local chapter of the national honorary agricultural fraternity, Sam E. McGregor, was elected Chancellor to succeed Duane B. Rosenkrans. W. B. McKay was elected Censor to succeed R. C. DuBose; A. W. Snell is to succeed J. G. Hardee as Secretary; F. L. Fitzsimmons succeeds H. V. Rogers as Treasurer; and E. L. Corley fills the position left vacant by S. L. Hay as Chronicler. These officers were formally installed at a special meeting held on April 29 and assumed duties immediately.

The annual banquet in honor of the graduating members of the local chapter was held on May 20 at the Mayfair Grill in Anderson. The address was made by Mr. J. M. Eleazer, information specialist with the South Carolina Extension Service. This banquet was given in honor of the following graduating members: L. F. Cato, R. C. DuBose, A. S. Gramling, J. G. Hardee, W. H. Kennick, C. H. Key, E. A. Lindenberg, M. W. Loupo, C. M. Lund, L. H. Moore, F. K. Norris, D. P. Rochester, J. S. Rodgers, H. V. Rogers, D. B. Rosenkrans, H. D. Taylor, and H. Z. Woodfin.

The new officers plan to carry out an intensive program of work during next year which will include closer work with the freshmen, and an integrated publicity campaign for the School of Agriculture.

DAIRY CLUB ELECTS OFFICERS

Graham E. Hawkins was elected president of the Dairy Club at a meeting held recently. He succeeds Richardson M. Hanckel who graduates in June. Also elected at this time were E. L. Corley, vice-president and A. T. Gilpin, secretary-treasurer.

At this meeting a social was also planned to be held at Boscobel on May 25.

AG STUDENTS WIN AWARDS

The School of Agriculture was well represented at the Scholastic Recognition Day held on May 5 in the Amphitheater. Four awards were presented to Ag students by Sam E. McGregor, Chancellor of Alpha Zeta.

The Borden Agricultural Scholarship Award, which is presented by the Borden Company Foundation to the senior student having the highest scholastic average who has included two or more dairy courses in his curriculum was awarded to Wayne T. O'Dell, of Easley, S. C., who finished Clemson in February.

The Sears-Roebuck Sophomore Scholarship Award, which is presented to the outstanding sophomore student who won a freshman Sears Scholarship, was awarded to Philip L. Benfield, a sophomore in Agricultural Engineering, from York, S. C.

The Alpha Zeta Scholarship Award was presented to Samuel Parker Young, a sophomore majoring in Agricultural Engineering from Dale, S. C. This is the first year this award has been presented and it is awarded to the sophomore student in the School of Agriculture who has maintained the highest scholastic average for his first three semesters' work at Clemson.

The Danforth Fellowship Summer Award was presented to Sam E. McGregor, Dairy senior from Lykesland, S. C. This award consists of a two weeks trip to the Purina Experimental Farms and two weeks at the American Youth Foundation Camp at Shelby, Michigan.

REYNOLDS PRESIDENT OF F.F.A.

At the regular meeting of the Future Farmers of America Chapter at Clemson on May 4, Leonard D. Reynolds, Vocational Agricultural Education junior of Lamar, was elected President; L. L. Lewis, Vice-President; P. H. Bedenbaugh, Secretary; J. C. Jackson, Treasurer; C. N. Gulledge, Reporter; and D. L. Johnston, Sentinel.

MAY 1948
A 16 Point Program for the Dairy Industry in S. C.

1. For Health—make available one quart of South Carolina produced milk for every man, woman and child in South Carolina.
2. Sectional meetings of members for discussion of mutual problems
3. Development of diversified markets for the use of all milk produced in South Carolina.
4. Strict enforcement of health codes and standards.
5. Strict enforcement and/or strengthening of existing laws and regulations for full protection of all cattle against contagious disease.
6. Give full support and cooperation to Clemson College.
7. 100% membership of all producers, manufacturers, and distributors in the South Carolina Dairy Association.
8. Conduct district merchandising and dispensing meetings for soda fountain employees and other milk and ice cream dispensers.
9. South Carolina Dairy Association exhibits at state and county fairs.
10. Scheduled ice cream clinics at Clemson College.
11. Balancing milk production to consumer demand through seasonal production.
12. Promote the establishment of National Dairy Council Units for the promotion of consumption of all types of dairy products.
13. Give more publicity to the importance of the dairy industry in the industrial and agricultural economy of South Carolina.
14. Sponsor attendance of dairy farmers at Clemson Farmers Week.
15. Arrange for a three-day dairy herdsman’s short course at Clemson.
16. Request appropriate agency to make a dairy market study in South Carolina as a basis for future expansion.
HERE'S WHY EDITORS GET GRAY EARLY

Ho hum! It's time to begin work on another issue of The AGRARIAN. Let's see - - where shall we start? Well - - I guess we should first have a staff meeting and decide what we plan to run. At this time we shall make assignments and set a tentative (???) deadline.

Now let's see, what will be some good features for this issue. - - How about something on the Agricultural Fair that was held the weekend of Mother's Day? I think that would be a dandy!! Of course we shall need some pictures to go along with the feature. Where is that photographer? You have some pictures but they're not very good? Well, we can run them anyway and hope for the best just like we do for the rest of the magazine.

Oh yeah, I must check with the advertising manager and see how the ads are coming in. They're coming in pretty slow but you think there will be enough here by time of printing, eh? Well, that's fine, we won't have to worry about that end for this time. That's a load off our mind for this issue.

It's Friday night so while the "rats" are making an attempt to get my room ready for Saturday Inspection I think I'll get started on a couple of editorials. Now what shall I write? Shall it be something serious and constructive or shall I write some nonsense like I'm doing at the present. I believe I'll go half and half. (several hours later) At last I'm through; now to get some sleep so I'll be able to get to the print shop bright and early in the morning to start making it up.

The next two days (including the time I should be in class) are spent in the Print Shop finangling with the printer about the makeup, when at last the final form is locked into place "yours truly" breathes a sigh of relief and all his worries are over until the next issue.

IMPROVEMENTS NEEDED ON AG CAMPUS

Each year as the school year draws to a close remarks begin to float around as to several things which should be done to improve the campus or some such similar project. True to form this editor is proposing a few this year. At any rate most of the students including your editor, will be here next year to see these proposals carried out or else fall through.

The first and most striking need is a large bulletin board to be located near the west end of Long Hall. An enclosed board located to the left of the entrance just inside the door, similar to the one in the Textile Building, would be very appropriate. This would eliminate the deplorable array of papers, thumb tacks, and scotch tape, now prevalent on the door and greatly improve the looks of the building in the eyes of visitors.

Another need is closer cooperation between the various departments and a mutual understanding and sharing of ideas. There are various ways this could be accomplished. One project suggested by the first editor of The Agrarian since the war, Bill Reasonover, is a joint bi-monthly meeting of the various departmental clubs and their faculty members. In this meeting, programs beneficial to all, which could not be sponsored individually, would be presented and coordinated plans for projects such as the recently successful Agricultural Fair could be worked out.

There are many other worthwhile projects such as closer work with the freshmen, recognition of outstanding students, and others which are open to clubs or individuals with the initiative and enthusiasm to carry them out. It is hoped that some club or organization will "start the ball rolling" toward the accomplishment of these aims at the beginning of the fall semester.

MAY 1948
Diesel Engines Versus Carburetors

Improvements In Diesel Engines May Soon Bring Them Into Wider Use As Source of Farm Power

The compression ignition principle of engine operation was developed six years prior to the development of the carburetor-spark-ignition type of engine. However, only in very recent years has Diesel power assumed any importance in farm power. There were several reasons for this but the main one was the failure of engineers to build a Diesel of small size and comparable horsepower to the gasoline engines which were used in the first farm tractors.

The Diesel engine has a number of advantages over the carburetor type of engine which are counterbalanced to various degrees by disadvantages which I shall endeavor to point out.

The primary and greatest advantage of the Diesel is its higher thermal efficiency which averages about 30 percent greater than carburetor engines. The Diesel is our most efficient means of developing mechanical power at this time. This greater efficiency is due to: a higher ratio, a higher air to fuel ratio, and an unrestricted intake manifold requiring less effort for the intake of air. Other advantages of the Diesel are: its ability to use satisfactorily the lower grades of fuel which cost less, the engine's higher efficiency under light loads, and its lower fuel consumption per brake horsepower hour.

The Diesel engine and the carburetor type engine compare very closely in size and weight for the same horsepower and duty. Therefore, in modern engines a designer is able to offer either type of engine in his decision as to which engine he shall use. In his analysis the designer should consider these points: the cost of the machine when sold to the public, the type of operators and service, and the fuel available in the area where the machine is to be used and the individual which will be available for the care of the machine, the types of visual characteristics of each engine.

The disadvantageous side of the Diesel picture is: considerably higher first cost; a specially trained serviceman is usually required. They are not as flexible as carburetor type engines, they carry heavier internal loads due to higher compression and consequently present a more serious stress design problem in order to give comparable durability to the carburetor type engine. They also present more complex starting, lubricating, and cooling problems.

At the present time only a small percentage of the farm power used in the United States is derived from Diesel engines. The principle use of Diesels on the farm has been in stationary engines and heavy crawler type tractors. The first tractor designed for farm use and utilizing a Diesel engine was the Caterpillar Model D-2 first offered for sale in 1934. Since this beginning both International-Harvester and Allis-Chalmers have placed Diesel powered farm crawler tractors on the market. International Harvester offered the first Diesel wheel tractor, the D-40, three years later in 1937. This D-40 remained as the only Diesel wheel farm tractor on the market until 1946 when International made its Farmall MD available to the public.

As I have shown, the Diesel is gradually being seen more frequently as a source of power on the farm. This tendency has not yet developed to a sufficient extent that one can say there is a trend toward Diesel on the farm. However, it may be a step in that direction. The reasons farmers have not made a rush to accept Diesel's advantages are: the higher initial cost, higher cost of service and parts, more complicated

(continued on page 16)
ONE MAN SAVES HIS CHOICE OF 100 Crops

Cutting an inch from the ground, the All-Crop Harvester demonstrates here how difficult crops can be salvaged.

This entire field of wheat was flat on the ground. The All-Crop Harvester's wide, spiral bar cylinder handled tangled straw up to six feet long.

Through a wide range of hard-to-harvest crops, from viny beans to grain with green undergrowth, the All-Crop saves them all.

Select any diversified rotation you wish, and have your own All-Crop Harvester ready to go as the crops ripen. You will find it priced sensibly. Allis-Chalmers believes that quality and full value are still the right of every purchaser. That is the only way inflation can be checked.
The first public service ever rendered by Clemson College was the inspection and analysis of commercial fertilizers. This service was created for farmers and fertilizer manufacturers throughout the state; it was started by Senator Ben Tillman. This statesman made the statement that if every ton of fertilizer sold in South Carolina was taxed twenty-five cents that he would operate Clemson College on this sum of tax money. For years this was the only support that Clemson College received from the State Government.

It is the duty of the Department of Fertilizer Inspection and Analysis of the Clemson Agricultural College to inspect commercial fertilizers and fertilizer materials for bags, proper bag branding and weights and to secure official samples for analysis to see that the guarantees are met.

In 1942 a bill was passed in Congress requiring the manufacturers to conform their customers mixtures and grades to definite ratios. This system of grading and restricting certain inferior fertilizer from reaching market eliminated some of the filler which was prevalent in fertilizers before 1942.

During the years of 1937-38, 50,000 tons of customers' mixtures in 220 grades were sold in South Carolina. As a result of the bill that was passed in 1942, in the fiscal year of 1946-47 only thirty grades existed in the state. This marked change has been of prime importance to the farmers in South Carolina. With this limited number of grades, the requirements for each particular grade were standardized and therefore enabled the farmers to purchase fertilizers, from any company in the state, because they were sure that each bag of fertilizer met the requirements set up by the Fertilizer Board of Control.

During the fiscal year of 1930-40 the average grade for mixed fertilizers in South Carolina contained: 3.55 percent of Nitrogen, 8.40 percent of Phosphoric acid, and 4.99 percent of Potash; but by 1946 the average had risen to: 3.95 percent of Nitrogen, 9.86 percent Phosphoric Acid, and 6.13 percent of Potash. This improvement of mixed fertilizer had such an influence on agriculture of South Carolina that it has been unparalleled by other factors in the advancement of agriculture in recent years.

The fertilizer industry represents an expenditure ranging between 36,000,000 and 40,000,000 dollars a year. This fact is of primary importance to the farmers throughout the state because this sum of money represents such a high percentage of the farm income, that it would astound individuals who are not in the farming business.

**DIESEL vs. CARBURETOR**

(continued from page 14)

operating problems, and a lack of dissatisfaction with present day carburetor engines.

Today, Diesel's place on the farm appears to be mainly limited to the 30 and 40 horsepower tractors and as stationary engines used in pumping, ginning, sawmills, and similar operations. There is, nevertheless, a growing interest in Diesel power throughout the country.
**IT'S MACHINERY POWER** in farmers' hands that prepares, sows and reaps most food crops today...

it's *protection* of this power that keeps tractors and trucks in best shape to grow and deliver the food needed by America and the world...

and it's Esso quality products that give your farm machinery good *power-protection*!

But today's demands for petroleum products are greater than at any time during the war! Our people are making an all-out effort to meet these needs ... and you can help, too—by avoiding all waste of fuels and lubricants *on the farm!*

**ESSO STANDARD OIL COMPANY**
SNOOPIN’ AMONG THE AGGIES

A bouquet of roses to Mr. Bill Moore for the finest Junior-Senior these hyar hills have seen in many a noon. The food was elegant, the speeches above average and the decorations were wonderful. Between Dot Fant and Betty Barton, we don’t see how Bill did it.

Would someone please tell a certain Winthrop Miss who the cute little red headed fellow is that teaches dairying. If we remember correctly her exact words were, “That curly red hair really sends me”!

Henry “Azalea” Tecklenburg was really going strong that Friday night. When they finally got him to bed, early Saturday morning, he kept mumbling, “J. Strom got the last one, but this one belongs to ol’ Teck.”

The gals at the last dance seem at least agreed upon one thing. Why sure “Big Ben” can Shag better than Sonny Hanckel. Some “Hep-Cat” Goodale.

Carl Lowder had the privilege of being at the Sigma Epsilon intermission party last dance. As usual, he made a nuisance of himself by trying to make a little time with a very pretty girl that he was introduced to. We think the girls were amused at the way he staggered rather than pleased with being confronted by such a drip.

“Stud” Klettner sat down with a big cigar after the dance and told us how he rose from a simple errand boy under Tommy Covington to the future president of the C.D.A. After talking for an hour or so “The Stud” called his audience to a close by saying, “We’ve done it this time boys, this Phil Corker and I”. Evidently, Klettner was referring to the cool thousand that he and Phil cleared.

We were pleased to notice Miss Vivian Burruss at the Junior-Senior. Bill, how did she ever manage to come after that huge weekend at Pawley’s with Mr. Riley.

Norris thinks he has Miss Byrd “in the bag” but, it’ll take more than a new Plymouth to win her heart. Maybe that fellow from Rock Hill will leave her alone after she goes back to Kingstree. However, popular opinion has it that she plans to teach school in Rock Hill. If it’s just too much to bear, Fred, stop by Wayne Ballentine’s room and get a little fatherly consolation.

Our date kept talking about how sweet Bruce was to lend her a ribbon to go around her pretty little waist. As the night wore on, it finally dawned that she was talking about Bruce “Hotch” Strubling. You do tie the nicest bow, sir. It must have taken you quite awhile. Was Mrs. Strubling at home?

Could it really be true that Sam “O. G.” McGregor busted his ol’ lady for talking out of turn? Sam goes for this military like Henry Black.

Zeke, so you finally got Betty here? Did you make love to her on the dance floor like at Coker or did you wait ’til after the fling. We wonder if she’s going to be able to make that big house party you’re planning for this summer.

At last the unbelievable has happened. “Fog” Booth will (he says) never visit Converse College again. Mid-week speeches, at parties and etc., are all finished. He offers this simple explanation — Bob McLeod.

Here it is the last of May and most Clemson students preparing to visit parts of South Carolina not normally associated with Clemson. You will probably see them at Ocean Drive, Myrtle Beach, Pawley’s Island, and other resorts so dear to our hearts. Romances, heartaches, house parties, new faces, and fine places will make this a happy summer for all. To those who won’t be back in September we want to say we sho will miss you. To the Lucky ones who plan to return to the hay and pasture region in September — have a big summer and please get back safely — unmarried. . . . . .

Lesson in a Mirror

Future producers of pork, beef and lamb, accustomed to seeing animals on foot, should be equally familiar with the carcass. For the carcass reflects the breeding, feeding, care and handling of livestock. Its quality determines the cuts, texture and flavor of the meat that is sold to the consumers. Knowledge of the carcass is the key to successful livestock production...success in any business hinges on the ability to give the public what it wants.

ARMOUR and Company

EIGHTEEN

THE AGRARIAN
The Farmall System of Farming is an American institution. Its roots are in the soil... on your farm, on the farms of your neighbors.

To increase productivity and speed field work, look to the Farmall System for the answer. A Farmall Tractor and matched machines can mean greater operating economy and efficiency on the family farm — and that brings better living!

Five basic models make up the Farmall lineup. There's a size for every farm, an endless selection of Farmall equipment to work in every crop and soil condition.

The answer to the power problem on your farm can be found in the Farmall System. Your nearest International Harvester dealer can give you full details on the model that fits your farm.

INTERNATIONAL HARVESTER COMPANY
180 North Michigan Avenue
Chicago 1, Illinois

Left: Farmall Super-A offers hydraulic Farmall TOUCH-CONTROL and new "combustion control."

FARMALL is a registered trade-mark. Remember—Only International Harvester builds Farmall Tractors.

Smallest member of the Farmall Family is the Farmall Cub with matched Cub equipment.

FARMALL Leads the Way!
WHERE ARE LAST YEAR'S GRADUATES?

AGRICULTURAL ECONOMICS
Roy L. Allen is employed by the Beek Hill Printing and Finishing Company as an industrial economist. He recently accepted a commission in the Army Air Force and is to report to Texas in the near future.

Henry Barnwell, is working with his father in the insurance and real estate business in Florence. He is married and has one child.

William Irving, is working with the Veterans Administration in the "on-the-farm-training" program in the state of New York.

Dan A. Kennerly, is the District Manager of a life insurance company. He is living in Cordova, and is also doing some work with the Veterans Administration.

Edwin Nunnery, is Postmaster in Great Falls. He has also gotten married since graduation.

AGRICULTURAL ENGINEERING
A. B. Carwile is employed in the Industrial Engineering Department of the Abbeville Mill in Abbeville, S. C.

L. G. McGill is employed by the South Carolina Ginning Association.

J. M. Goodman holds a position with the South Carolina Power Company in Charleston, S. C.

J. S. Evans remained at Clemson as an Assistant Agricultural Engineer working on cotton mechanization research.

L. A. McInnis is also at Clemson as an Assistant Agricultural Engineer. He is currently engaged in work on irrigation research.

H. G. Rhodes went to Ashwood Schools, Bishopville, S. C., as a farm shop instructor.

D. E. Hay works in the Farm Structures Department of the Tennessee Coal, Iron, and Railroad Company at Birmingham, Alabama.

H. C. Edens is farming in Dalzell, S. C.

AGRONOMY
Dan Horton worked with the experiment station at Blackwell for a short time after graduation. He is doing graduate work at North Carolina State College at the present.

Bill Camp returned to California after graduation and has entered the farming business with his father.

Henry L. Parr is managing a dairy farm near Newberry.

Andrew White and A. D. Burnett are working with the Fertilizer Division of Swift and Company.

Harry Blanton accepted a position with the Virginia-Carolina Fertilizer Company.

ANIMAL HUSBANDRY
E. W. Allen is back in the army and is stationed at Randolph Field, Texas.

H. W. Boozer is working for the White Provision Company in Atlanta.

D. M. Camp is at his ranch in Bakersfield, California.

P. E. Freeman is farming at Steeds, North Carolina.

J. E. Hill will finish his Master's Degree at the University of Illinois this June.

L. C. Howell will finish his M.S. Degree at Oklahoma A & M this June.

DAIRYING
J. W. Lyles is Assistant Dairy Specialist with the South Carolina Extension Service and works out of Clemson, S. C.

B. J. Stanek is employed as Fieldman for Edito Farms Dairy in Columbia, S. C.

T. S. Bowers is an Assistant in Dairying, located at Clemson, S. C.

M. B. Edens is in charge of the Seals test Laboratory at the Southern Dairies plant in Miami, Fla.

J. W. Dantzler is enrolled in the School of Veterinary Medicine at Alabama Polytechnic Institute, Auburn, Ala.

A. E. Bobrow is laboratory technician for Sheffield Farms Company, Inc., in New York City.

J. C. Hiers is technician with the Anderson County Breeding Association at Anderson, S. C.

H. E. Branyon is at home in Hon- ea Path, S. C.

W. F. Irwin is a dairy farmer at Laurens, S. C.

HORTICULTURE
J. S. Alexander is teaching at Tennessee Junior College at Martin, Tennessee.

A. J. Dibble is working on his graduate degree in Floriculture at Ohio State University.

J. E. Herlong is in the peach orchard business for himself at his home in Saluda, S. C.

W. L. Johnson is engaged in the food preservation and pickling business at Barnwell, S. C.

W. C. Kennerty is teaching school and farming at Charleston, S. C.

W. L. Marlow is a peach orchardist at Inman, S. C.

O'Neal Miller has accepted a job as florist at Sumter, S. C.

SELL or TRADE
YOUR WHEAT
WITH

Allen Brothers Milling Co.

Columbia Greenwood
GET FUNNY...WIN MONEY...WRITE A TITLE

"...well, as long as I'm down here I'll fill out my entry blank for the Pepsi-Cola 'Treasure Top' Contests."

Got a good line for this gag? Send it in! $5 each for any we buy (Don't worry about the caption that's already there—that's just our subtle way of reminding you about Pepsi's terrific $203,725 "Treasure Top" Contests. Latch onto entry blanks at your Pepsi-Cola dealer's today!) Or send in your own cartoon idea, $10 for just the idea—$15 if you draw it . . . if we buy it.

January winners: $15.00 to Philip Gips of the Bronx, N. Y., and to Rosemary Miller of Mary Washington College; $5 each to Jerry H. O'Neil of Washington University, Jack Marks of Columbus, Ohio, and C. A. Schnever of New York City.

DAFFY DEFINITIONS

$1 apiece is shamefully sent to C. R. Meissner, Jr., of Lehigh Univ., Bernard H. Hymel of Stanford Univ., T. M. Guy of Davidson College, and Irving B. Spielman of C. C. N. Y. In fact we're almost sorry we did it.


Spot—what Pepsi-Cola hits the.

Paradox—two ducks.

Laugh—a smile that bursts.

Hurry and coin a phrase . . . you might face some coin. If that isn't easy money, we don't know what is.

EXTRA ADDED ATTRACTION

At the end of the year, we're going to review all the stuff we've bought, and the item we think was best of all is going to get an extra $100.00.
TED WILLIAMS
BOSTON RED SOX

TED WILLIAMS
BOSTON RED SOX

STAN MUSIAL
ST. LOUIS CARDINALS

STAN MUSIAL
ST. LOUIS CARDINALS

BOB ELLIOTT
BOSTON BRAVES

BOB ELLIOTT
BOSTON BRAVES

Bucky Harris
MANAGER OF WORLD'S CHAMPION NEW YORK YANKEES

Bucky Harris
MANAGER OF WORLD'S CHAMPION NEW YORK YANKEES

Champion N. Y. Yankee's
Joe DiMaggio
Voted Most Valuable Player in the American League

Champion N. Y. Yankee's
Joe DiMaggio
Voted Most Valuable Player in the American League

THE
BASEBALL MAN'S
CIGARETTE

When you change to Chesterfield
The first thing you will notice is their Mildness
That's because of their right combination
World's Best Tobaccos—

Always milder
Better tasting
Cooler smoking

Always Buy
Chesterfield

They Satisfy

Copyright 1949, Liggett & Myers Tobacco Co.