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**The Agrarian**

**Volume 13**  
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Number 1

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<th>Co-Editor</th>
<th>Associate Editor</th>
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<tbody>
<tr>
<td>Edwin F. Nolley</td>
<td>Joe W. O'Cain</td>
<td>James K. Henderson</td>
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<tr>
<td>John M. Turner</td>
<td>Jackie Sanders</td>
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<td>Advertising Manager</td>
<td>Alva L. McCaskill</td>
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**THE COVER:** Mr. D. B. Rosenkrans, professor of botany and genuine friend at Clemson College for forty years, is an integral part of Clemson's rustic history as well as the institution itself. Co-Editor Jim Henderson tells an interesting story of Mr. Rosenkrans and his rich recollections in a dedicatory salute on page 3.

**IN THIS ISSUE**

| A Salute to Mr. D. B. Rosenkrans    | Page 3 |
| Guest Editorial                     | Page 4 |
| Ag Engineers Demonstrate to S. C. Farmers | Page 5 |
| Over The Hills To The Sea           | Page 6 |
| New Ag Professors                   | Page 7 |
| Flower Arranging                    | Page 8 |
| Keeping Our Crops Healthy           | Page 9 |
| Between The Furrows                 | Page 10|
| Cooperatives In The Carolinas       | Page 12|
| News Briefs                         | Page 13|
| Autumn Meditations                  | Page 14|
| Off Campus Training                 | Page 16|
| Bee Pollination                     | Page 18|
| Fall Corn                           | Page 20|

**THE AGRARIAN**—published in November, January, March and May by the undergraduate students in the School of Agriculture and the Department of Vocational Agricultural Education of the School of Education. Opinions expressed in this magazine do not necessarily reflect the policy of the School of Agriculture or Clemson College.

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**Agrarian Philosophy**

By Edwin F. Nolley, Co-Editor

Back in the middle of October a headline across the front page of a nearby paper stated that Secretary of Agriculture Benson had announced his plans to reorganize his office, and that certain farm offices would be abolished.

According the The Anderson Independent, "the plan would reshuffle the department's various services and place them under four main groupings: Marketing, stabilization, credit, and federal-state relations." Since then there have been many changes, heated discussions, and occasional uproar throughout the states. The organizational changes are not due to go into effect until the first of next year, but even before Benson's announcement there was some feeling of anxiety and uncertainty among farmers throughout the United States, especially in the midwest.

Everyone realizes that in any set-up there is room for improvement, but some politicians throughout the country have stated that they consider a complete reorganization of the agricultural offices foolish and unnecessary. With a pessimistic view, a Washington release listed some of the factors bringing about fears of a new agriculture depression that might bear down on farmers and businessmen: "(1) decline in farm prices and incomes, (2) the building up of crop and dairy surpluses, (3) dry weather and poor crop yields in some areas, (4) dissatisfaction with government farm policies and proposals."

Most farmers seem to be in favor of government help in stabilizing their prices and income through the medium of high parity price supports but they generally dislike the production and marketing controls connected with these high price supports. But the comment that "it is better to be a controlled farmer with an income than a bankrupt farmer with freedom" was heard frequently. The outcome of all these happenings is surely hard to predict, but there will doubtless be plenty of action on the national agricultural scene in the near future worthy of careful attention.
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A Salute to

D. B. Rosenkrans, Professor of Botany

On August 15, 1913, a new professor came to Clemson to make a career of the teaching profession. This professor is still at Clemson and I might say going just as strong as he was the day he arrived. Who is this man who has dedicated his life to teaching Clemson students? His name is D. B. Rosenkrans, Professor of Botany. In this, Mr. Rosenkrans forty-fifth year of teaching, we of the Agrarian are proud to dedicate our publication to him.

Mr. Rosenkrans was graduated from Upper Iowa University in 1911. Immediately after graduation he accepted a position as Instructor in Botany at North Carolina State College. Here, he remained for two years until a position was offered him at Clemson. This was just a short time after the students of Clemson had staged their famous, or infamous as the case may be, sit down strike in which they marched on Pendleton and refused to go to classes. When Mr. Rosenkrans announced to his friends at State that he had accepted a position as an instructor at Clemson, they were quick to warn him that those South Carolina boys were rough and hard to handle. They told him that the boys at Clemson did what they wanted to, when they wanted to, and in general were just a rough bunch of mountain boys. Mr. Rosenkrans laughed at this, and is still laughing at them when he states that he has never met a finer group of gentlemen than the boys at Clemson.

Mr. Rosenkrans likes to reminisce and think back to the days when he first came to Clemson. At that time, there were approximately 700 boys here, making it easy for a professor to know his students. In those days life at Clemson was quite different from the life today. There were formations for everything. The students had to march to and from classes. One student was appointed by the college to be in charge of each class. His job was to report absences, keep order, and act as moderator in the classroom. Smoking was not allowed anywhere on the campus, and the town was off limits to everyone after long roll. Christmas was the only real holiday—one day being allowed for Thanksgiving.

One of Mr. Rosenkrans’ favorite stories reveals the origin of the custom of shaving the rats’ heads. It all started when twins came down from the nearby mountains to pursue their studies at Clemson. To tell the twins apart, the upperclassmen shaved one’s head. But the other foiled their plans by having his head shaved too. The next year all rats’ heads were shaved. Once, an attempt was made to put a stop to this custom by the commandant. An order was issued from his office that there was to be no more shaving of heads. The next morning when the commandant entered the chapel to take his usual seat, his chair was piled high with shorn locks. No more was said about discontinuing the custom.

There is a twinkle in Mr. Rosenkrans’ eye when he recalls such escapades as these, and he cherishes, too, the memory of a Clemson with only three barracks buildings, Mr. Martin’s general store, Judge Kellner’s pressing, mending, and clothes shop, and “Cap” Clinkscales’ livery stable. But memories don’t stop him from predicting a co-educational Clemson with improvements all around.

Talking with Mr. Rosenkrans, one really sees a picture of Clemson down through the years. And who could better paint such a picture, for with the exception of one professor, Mr. Rosenkrans has been teaching at Clemson longer than any other person on the campus. Forty years he has devoted his life to teaching and befriending the students of Clemson. He is still doing just that—not only inside the classroom, but outside as well. Many years have flown by, many changes have taken place, many students have come and gone, and through it all Mr. Rosenkrans has had the same enthusiasm, the same ever-present concern for every student as well as the college. When Clemson was young, every boy who came to Clemson had the opportunity of knowing Mr. Rosenkrans, and now, the lucky ones who can know him are truly grateful for all his interest and friendship.

So it is our hope that we can express for ourselves and others the heartfelt thanks and appreciation for these many years of service by dedicating this edition of the Agrarian to you, Mr. Rosenkrans.
A CLEMSON MAN FARMS

Today, the Clemson graduate operating a farm is a man who, preferring to be his own boss, takes pride in matching his skill and scientific knowledge against the ageless laws and probable results of nature. He realizes that the business of farming offers his individual interests a wide degree of freedom, and the success of his efforts will be satisfaction from his ability to plan carefully and think clearly. His reward in the business world is the production of the greatest return at the lowest cost. A man on the farm sets his own program of work, schedule of effort, and to a large degree the probable return from each operation. Although his is governed strictly by the laws of nature, the scientific growing of crops today rests largely in the hands of the operator. To be agriculturally successful is to cooperate with Mother Nature, taking advantage of the untold opportunities she offers. The farmer's tasks are multiple. It is not the good earth alone which makes him succeed. He must have knowledge of planning, operations management, marketing, and banking. He must choose suitable crops, prepare the land well, harvest and market to his advantage, and control the use of funds expended for every operation.

The farm offers a degree of security not to be found in any other business. Except in unusual instances, income is a product of the individual's effort expended to his best advantage. Farm living lends itself to security in an adequate food supply for the modern family. Although cash money may sometimes be short, good food should always be available.

Farming is the oldest occupation known to man. In recent years it has ceased to be an occupation and has become a business filled with unlimited challenge. At every turn new techniques appear to make farming an exciting enterprise. Recent discoveries which save cost and time as well as assure a good harvest include hybrid varieties, antibiotics, fertilizers, chemical weed killers, powerful fungicides and insecticides, mechanized equipment, and scientific breeding methods. The farmer of today must continue to be a student, if he is to receive full benefit of this challenging program. His chosen field is one that is totally free of monotony.

Historically, agriculture has always been competitive. This has increased through the years. Recent years have produced surpluses that have not received adequate distribution in hungry markets. Success in obtaining agricultural markets under these conditions requires all the background training a student can obtain.

Farming is a family occupation. The farm home represents team work, shared responsibility, and as a result, strong family ties. It is a situation associated with an abundant life. A family reared in a modern farm home enjoys human understanding not to be obtained under any other circumstances.

Farming is a creative job. The products of the farm are essential to the very life of every man, woman, and child. The flow of agricultural produce to outside markets must be maintained, if the people of our cities are to function in their respective capacities. Our industries with higher salary scales have tempted college graduates to leave our rural communities. However, with less people to feed our growing population as the years go by, the time may come when the man on the farm will hold the most powerful bargaining position in the world.

—Dr. M. D. Farrar

THE AGRARIAN
At Farm and Home Week

Ag Engineers Demonstrate to South Carolina Farmers

By J. DAVID MARTIN, Ag. En. '55

For many years past Farm and Home Week has been an annual affair at Clemson College. During this week, the agricultural division of the college works jointly with the South Carolina Soil Conservation Service to show new and better methods of farming and farm living to the people of South Carolina and surrounding states. This event is held annually during the month of August.

For the modern farmer who is dependent on machinery, Agricultural Engineering is one of the most important aspects of the program. He has to know his equipment and what it will do before it will be of any profitable use to him. The four main phases of Agricultural Engineering are farm machinery, farm structures, soil and water control, and rural electrification. During Farm and Home Week a demonstration and display was presented on each phase. One outstanding feature of the display was a tractor which had the engine, transmission, and differential cut away in order to show every moving part. Every type of machine from the largest cotton picker or harvester to the smallest garden tractor or power saw was here during the week.

In the big exhibit tent on Bowman Field were exhibits of Farm and Home equipment and supplies. Among these were such items as home freezers, water systems, stoves, and models of farm structures and buildings. Several wood preservative concerns presented models of the correct procedure to build a fence. One concern, which has just come out with “Wolmanized Lumber,” had a scale model layout of the plant showing how the lumber went through the preservation process. Another interesting model was of a pole barn using treated poles. In another was an exhibit of the farm uses of aluminum. This exhibit proved that aluminum is not confined to roofs alone anymore.

Tuesday morning a discussion on “Problems in Storing Grain” was held in the Agricultural Engineering Auditorium. That afternoon a large crowd witnessed a demonstration of land preparing equipment at Cherry Farm. At the same time a tour of irrigation experiments was conducted. This tour took the participants to see several of the many experiments which the college is presently conducting.

Wednesday morning was devoted to conferences and meetings to inform the members of different organizations throughout the state of the latest changes in agriculture. Wednesday afternoon there was a land clearing demonstration on the Agricultural Engineering Farm across the Seneca River with large equipment furnished by various machinery companies.

While thinking about irrigation let us return to Bowman Field where we find two tractors with mounted irrigation pumps which had just been developed by the college.

After the demonstration on irrigation a good many questions were brought up on irrigation, therefore a “Question and Answers on Irrigation” session was composed of H. P. Lynn, O. W. Beale, W. P. Law, T. C. Peele, and W. A. King, all of whom are experts on irrigation.

To wrap up a big week, a demonstration of silage harvesting equipment was held Thursday afternoon at Cherry Farm. The proper procedure for adjusting and harvesting the silage was shown at that time.

The student branch of the American Society of Agricultural Engineers was on hand at all field demonstrations selling cold drinks for the refreshment and benefit of all concerned.
Over the Hills . . . To the Sea

WILLIAM C. DAILY, Agronomy '56

Upland, lowland, mountains, to the sea;
Richland, poorland, South Carolina for me.

The agriculture in South Carolina is what it is largely because of the soils which it possesses, and the soils are what they are mainly because of the geological and climatic conditions to which they have been subjected. Geologically, South Carolina is divided into distinct regions, the Up-country and the Low-country, with the division coming at the fall line. Since the fall line was once the coast of the Atlantic, it is easy to account for the variation in the soils found in these two regions. Half of the state, the western half, is probably the oldest land mass on the face of the earth, and the eastern half, the Coastal Plain, is of rather recent formation, having been pushed up by the bottom of the Atlantic Ocean only a few million years ago. On the basis of climate, the soils of South Carolina can not so readily divide into subdivisions, probably the most important factor that has influenced soil development in South Carolina. The principal climatic factors that have influenced soil formation are temperature and rainfall. The temperature of the state may be intermediate, between that of tropic and of cooler zones. Because of the non-extreme temperatures and the fact that we are so far south, the decaying process of both organic and inorganic soil matter, goes on to the extent of twelve months out of the year. Consequently, the rocks which were exposed at the surface have been thoroughly decomposed, and the resultant clay, kaolin for the most part, is one of the poorest clays that we could have, when compared from a fertility and water holding standpoint. Because of the rapid break down of organic matter caused by the high temperatures, it is extremely difficult to maintain a humus content in the cultivated soil anywhere near that found under virgin conditions.

South Carolina has a rainfall which ranges from 45 to 55 inches. The leaching effect on the soil's fertility of the passage of this water has been tremendous and disastrous. As a result, the greater part of the soil's reserve supply of fertility has been leached. Therefore, we have been left with land which is relatively poor compared to some of the richer soils of this country. The type of vegetation, for instance, trees and grass, which is natural for an area has a profound effect on soils of that region, but this factor is largely determined by the climate. South Carolina's soils may be classified as timber soils, because their natural vegetation is trees. There have also been other factors which have helped to lower the fertility of our agricultural land such as the continuous cropping of the soil, non-control of erosion and the employment of poor fertilization practices. Our soils are rather infertile because they were produced under environmental conditions which are found in South Carolina. This state is just too far south and has too much rainfall to have highly fertile soil.

Thus far only the climate has been brought into the scene, but the geology has its part and left its stamp on the soil. The geology of the Coastal Plain is, as has been stated, quite different from that of the Piedmont. The soils of the Coastal Plain, or Low Country, are made up largely of quartz sand that was placed there by ocean currents, and, as would be expected, the coarser soil particles are found near the fall line and the smaller particles near the coast. They were thoroughly leached before they were laid down, and have been leached since. It is harder to maintain the organic matter supply of these soils than it is the heavier soils of the Piedmont.

Since the soils of the Coastal Plain are open, loose, and porous, they offer to our crops a much better media for root development than do the soils of the Piedmont. Because of these characteristics, together with the fact that they are even poorer than Piedmont soils, they respond wonderfully to correct applications of commercial fertilizer, barnyard and green manures. It is easier to correct the pH of the soils of the Coastal Plain than that of the Piedmont because of their low clay content. All these factors explain the reason why the soils of the Low Country can be made the most productive in the State, although they may be the lowest in total fertility.

As stated before the soils of the Piedmont are much older than those of the Coastal Plain. These soils are heavier and in many areas seriously eroded. Their silt and clay content is much higher than in the soils of the Coastal Plain. The soils of the slate belt, which are located just north and west of the fall line, are composed largely of silts. Most of the slate soils are of low fertility and as a whole they are characteristically deficient in potash. This latter characteristic is also true of some of the soils found in middle Piedmont, such as the Iredell and the Davidson soil series. In fact, these latter soils are often so heavy that they are referred to as “push dirt” soils, but because they contain a relatively high percentage of the bases they are good livestock soils; they are capable of producing abundant yields of grass and forage.

(Continued on page fourteen)
Meet New Ag Professors

J. T. Lazar .. W. C. Godley .. J. W. Jones .. H. E. McLeod

Dr. J. T. Lazar was reared on a diversified farm at Florence, S. C. In 1943 he received his Bachelor of Science degree in Dairying at Clemson. He then served with the navy during World War II as a lieutenant. After returning from active duty, Dr. Lazar attended Cornell University where he received his Master of Science degree in 1946. He then went to North Carolina State and obtained his Ph.D. in the summer of 1953. Dr. Lazar is now Associate Professor of dairying here at Clemson. He is also manager of the dairy plant and store. During the summer, Dr. Lazar spends his time doing research work for the Dairy department.

* * * *

Dr. W. C. Godley obtained his Bachelor of Science degree from Clemson in 1943. Upon graduation he entered the Army and served with the Infantry in the European Theater. After the hostilities in Europe were over, he was released from active duty as a Captain. He then returned to Clemson where he taught in the Animal Husbandry department for three years. In 1948, Dr. Godley resumed his studies at North Carolina State, where he received his Master of Science degree in 1948, and his Ph.D. in 1951. Dr. Godley is now married to the former Miss Alice Hogarth of Brunson, S. C., and they have three young daughters.

* * * *

Dr. J. W. Jones, who was recently appointed director of agricultural teaching, is a person who takes a sincere interest in all phases of agriculture, but his more specialized work has been in agronomy. He is quite capable and very eager to be of service to students in all fields of study.

Dr. Jones received his B.S. degree in agronomy from Clemson in 1937. When he graduated he was presented the award for the highest scholastic record in the agriculture department over a four year period. In the fall of 1938 he entered Cornell University where he received his master of science degree. After securing his master’s degree, Dr. Jones continued his studies at Cornell and was also awarded his Ph.D. from that institution. Dr. Jones returned to Clemson in the fall of 1938 and served as an agronomy instructor until 1941.

Dr. Jones entered the army as a second lieutenant in 1942 and served with the Infantry until 1946, when he was discharged with the rank of captain. After he was discharged, he returned to Clemson as associate professor of agronomy. In the fall of 1933 his sincerity and abilities were rewarded by his appointment as director of agricultural teaching.

* * * *

J. R. Pauling, a 1926 graduate in dairying, is now agriculture specialist with the United Nations with headquarters in Rome, Italy.

* * * *

Dr. G. H. Wise, who graduated in dairying in 1930, is head of the Animal Nutrition Section at North Carolina State College.

Mr. H. E. McLeod spent his boyhood days on a farm at Rembert, S. C. He attended Clemson, and in June, 1951 obtained his Bachelor of Science degree in Agricultural Engineering. Upon graduation he entered the armed services as a second lieutenant and served with the Ordnance Corps in Korea for seventeen months. He was released from the Army in July, 1953 as a first lieutenant. Mr. McLeod is married to the former Miss Beth Carwile of Abbeville, S. C. While a student here at Clemson, Mr. McLeod was very active in student organizations. He was President of the American Society of Agricultural Engineers, President of the Wesley Foundation, student Secretary of the Y.M.C.A., and was a member of Blue Key and the Tiger Brotherhood. At present he is serving as an Associate Professor in the Agricultural Engineering Department.

* * * *

After completing the two year preforestry program at Clemson, Harlan Joye transferred to the University of Michigan to continue his studies in forestry on a university scholarship.
A Brief Glance at Flower Arranging

R. J. DONALDSON, Hort. '55

Love of flowers is virtually instinctive in human beings. Concurrent with this affection is a desire to arrange and display flowers and dress the home with their beauty and fragrance. In the Orient, flower arranging has been practiced for hundreds of years and in Japan this skill enjoys the esteem of a fine art.

Flower paintings dating back to 1700 shows early arrangements of the Western world as lavish in color, material, and style. Oriental arrangements are quite different and follow a severe, stylized line. Principles and rules have developed as guides for arrangers, but the prime purpose of flower arranging is self-expression. Most modern arrangers use a combination of Eastern line and Western exuberance and let their imaginations give expression guided by a foundation of established principles.

The basis of any good flower arrangement is common sense and complete freedom of expression.

Some people are gifted with a sense of form and color and have no need for rules. The average person, however, profits by learning and following the basic principles and techniques.

Design is the basic pattern of flower arrangement. It consists of a planned relationship among the components parts — flowers, foliage, and container. A design should have a definite relation to its place in the home. Several of the most popular arrangement designs are variations of the triangle, the circle, and an open S curve.

Scale is achieved by selecting materials reasonably related in size to one another and to their container. Suggested measurements for the arrangements proportions are at least one and a half times a tall container's height, or about one and a half times a low container's width. Visual weight of material and container is an important consideration also.

Balance is the grouping of materials within the pattern so that an impression of color and stability is created. Balance is achieved by working from light, delicate forms at the edges of the arrangements to darker, heavier materials at the center. A properly balanced arrangement looks good from any viewpoint.

Color is always a factor of arrangements. It may be used in many ways. Grouped color is more effective than spotty or mixed color. Dark heavy flowers are best used at the base or center while buds and lighter smaller flowers are used near the edges of the arrangement. Warm colors such as red, orange, or yellow give striking effects. Cool colors, such as blue and violet, and the pale tints give a quiet, delicate effect. Grouping different shades of one color makes an interesting bouquet.

Focus is the center of interest in an arrangement. The eye should be led to this natural center of interest. Where the main lines of the design cross, there must always be a high light of choice plant material, never a void.

Rhythm is the feeling of motion in an arrangement, achieved by graceful lines curving through the arrangement and leading to the center. Plan these lines while building the design and before filling it in.

Accent is the emphasis placed on a special area of the composition by giving it special prominence. Accent is acquired by contrast in color, size, form, or texture, or by incorporating unusual but harmonious materials.

Harmony is created in a flower arrangement by assembling the materials so that the result expresses an idea. The finished composition is harmonious when the plant materials, container, accessories, setting, and arranger's artistic effort have been perfectly blended.

This article was not intended to train the layman in the complex art of flower arranging but only to present several of the principles involved and to attempt to arouse in the readers a desire to investigate further.

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THE AGRARIAN
Keeping Our Crops Healthy

CLAUDE L. MULLWEE, VAE '54

One of the many government organizations which is silently working to protect the farmer from the disastrous effects of plant diseases and insects is the South Carolina State Crop Pest Commission.

This commission was established in South Carolina in 1912 by an act of the General Assembly and is composed of five directors who are members of the Clemson College Board of Trustees. The directors appoint a State Pathologist and a State Entomologist, who are directly responsible for carrying out the work of the commission.

The members of the commission in this state are: Dr. G. M. Armstrong, State Pathologist; Dr. M. D. Farrar, Entomologist; Mr. G. M. Anderson, Assistant State Pathologist; Mr. J. A. Berly, Assistant Entomologist; Mr. W. H. Purser, Assistant Entomologist; Mr. J. K. Reed, Associate Entomologist; Mr. C. A. Fennell, Assistant Agronomist; Mr. D. H. Horton, Assistant Agronomist; and Mr. R. H. Garrison, Associate plant breeder in charge of seed certification.

The purpose of the commission has been stated as, "To protect the South Carolina growers from the menace of buying infested nursery stock so that they may gain and hold profitable markets and compete with growers in other states."

The field inspections of the commission are carried out principally by Mr. J. H. Berly and Mr. G. M. Anderson, although part-time inspectors have been hired during the summer months.

Any producer of nursery stock must have his products inspected before they can be sold on the commercial market. After being inspected and passed, the producer is issued a tag which must accompany every shipment of his stock, whether it is sold within, or out of the state. If a nurseryman desires to import stock from another state he must file a certificate with the South Carolina State Crop Pest Commission secured from the state inspector at the source stating that the stock is clean and free of insects.

Although nursery stock is subjected to rigid inspections, it must still be fumigated with hydrocyanic gas before shipment as an added precaution against any insects which may have been overlooked by the inspector.

An additional act of the State General Assembly in 1922 charged the Commission with the protection of the South Carolina beekeepers from several brood diseases which were threatening to cause serious losses to the industry. As a result, all bees shipped within, or out of, or into South Carolina must be inspected and determined to be free of any diseases. By the rigid enforcement of these control measures, the diseases have not become prevalent in this state.

The inspectors of the S. C. State Crop Pest Commission contact annually about 250 nurseries, 54 greenhouses, and many small scale stock producers. A minimum of one inspection is made on all commercial stock except sweet potatoes, which are required to have a minimum of three inspections because of the importance of the industry in the state.

In addition to the inspection of nursery stock, the Commission also has the authority to regulate the sale and distribution of insecticides in this state. This control measure was taken to protect South Carolina farmers from experiencing losses due to the purchase and use of products of inferior quality which would flood the market were it not for controls.

Paralleling the work of the State Crop Pest Commission, but differing in scope, is that of the Extension Service Plant Pathologist and the State Experiment Station. Their main effort in disease control is directed more toward the individual farmer, rather than the commercial nurseryman.

Years ago farmers in South Carolina experienced crop failures year after year because of destructive diseases and insects, and yet they failed to take adequate control measures to eradicate these profit consumers. Why was this true? It was (Continued on page fifteen)
The men pictured below are the leaders of the College Dairy Judging Team who won honors at the Southern Intercollegiate Dairy Cattle Judging Contest held at Memphis, Tennessee. Members of the team are: (left to right) A. L. McCaskill, Jr., Bishopville; Joe Lee, Landrum; B. M. Sanders, Orangeburg; and C. C. Brannon, coach of the team. The college is very proud of the record these men made for themselves and the school. The team won first place in judging all breeds of cattle and first place in judging Guernsey cattle. Sanders and Lee took first place honors in the Jersey and Guernsey contest for high individuals.

ALPHA ZETA RECEIVES SIX NEW MEMBERS

The six new members of Alpha Zeta, national honorary agricultural fraternity, were formally initiated into the South Carolina chapter at the regular meeting held Monday night, November 9.

Those men that were initiated were Robert J. Donaldson, horticulture junior from Mt. Pleasant; Edgar Walton Jones, Vocational agricultural education senior from Murrell’s Inlet; Edwin Franklin Nolley, vocational agriculture education senior from Mocksville, N. C.; Clarence Kenneth Palmer, vocational agriculture education senior from Seneca; Niles Craig Clark, Jr., animal husbandry junior from Waterloo; and James K. Henderson, dairy junior from Clemson.

During the past year, the fraternity of Alpha Zeta has taken the responsibility of publishing the AGRARIAN, official publication of the School of Agriculture, and are now sponsoring the 1953 Agricultural Fair.

AGRICULTURAL FAIR IS GREAT SUCCESS

The bi-annual Agricultural Fair was one of the major attractions at Clemson during the recent Homecoming Weekend. Several thousand visitors made the rounds through the Agricultural Buildings and livestock barns to view the newest developments in scientific agriculture and to marvel at some of the freaks of nature.

The fair was sponsored by the Fraternity of Alpha Zeta and each of the major departments in the School of Agriculture.

SEARS, ROEBUCK SCHOLARSHIPS WINNERS ANNOUNCED

Professor D. B. Rosenkrans has announced that the annual Sears, Roebuck award of $250.00 is given this year to Richard F. Elliott of Rimini, S. C. The award is given to the sophomore who makes the highest scholastic average as a freshman Sears, Roebuck scholar.

SALTERS TO ATTEND NATIONAL CONVENVENTION

Jackie Salters of Trio, South Carolina, will represent the Clemson chapter of Block and Bridle at the National Block and Bridle convention which is to be held in Chicago, Illinois, on the 3rd of December. Jackie is president of the local chapter, and was chosen to represent the club by the active membership, which is about 75. Have a good time, Jackie!

THE FUTURE LEADERS OF THE COLLEGE

The men pictured below are the leaders of the freshman class for the present school year. They were elected by popular vote by the members of the freshmen class. They are (seated) John Duffie; Sumter, President; standing (left to right) Richard Kemp, Denmark, Representative; Tillman Johnson, Aiken, Vice President; Lewis Cromer, Greenwood, Secretary; and Carol Brown, Kingstree, Treasurer. (Back row left to right) Representatives Don Still, Blackville; M. C. Morgan, Great Falls; and Preston Stokes, Charleston. Tom Brown of Bakersfield, California was absent when the picture was made.

QUEENS! QUEENS! QUEENS!

It was a great pleasure for the Clemson Cadets to play host to another group of beautiful ladies competing for the Maid of Cotton title.

The three lovely young ladies pictured below won top honors in the contest. Miss Barbara Cates (center) is the new South Carolina Maid of Cotton of 1954. Miss Cates is shown with Miss Alice Rustin of Columbia (right), first alternate; and Miss Anne Evans of Camden, (left) second alternate. Miss Cates will compete for the national title in Memphis, Tennessee, in January.

Miss Cates represented Spartanburg County in the contest.

These Lambs Didn’t Go Astray

The Block and Bridle Club of Clemson College took in approximately 15 new members, LAMBS, into the club on the night of the 22nd of November. There was a Barbecue dinner given in their honor. The Block and Bridle Club is one of the biggest and most active organizations on the campus.
Cooperatives, generally speaking, are not very familiar to most Carolinians. The southeast has often been spoken of as a "desert for cooperatives."

There are several reasons for this. One is that in the past cooperatives were not properly organized, and as would be expected, were unsuccessful. A second reason is that people expected too much from the cooperatives, but like other forms of business, cooperatives have their limitations. A cooperative can aid the farmer in getting better services and higher prices to a certain extent but cannot fix prices or get the producer all of the margin normally going to the so called middleman. After all, most middlemen do perform a necessary function.

There are three main types of farmer cooperatives. The purchasing cooperative aid in getting farmers equipment, supplies, feed, and seed at reduced cost. Examples of these are the Farmer's Federation of Asheville which serves Western North Carolina and the Farmer's Cooperative Exchange (F. C. X.) which serves both of the Carolinas. Both of these cooperatives may also be classed as belonging to the second group of cooperatives, namely the marketing cooperatives. The Federation also belong to the third type, the service cooperative. The forms of marketing carried on are, for example, the broker business of the Federation and the buying and selling of grain and seed as practiced by the F. C. X. The freezer locker plants operated by the Farmers' Federation provide one example of a service cooperative. Some marketing cooperatives also engage in certain kinds of processing.

Other examples of service cooperatives would be the Rural Electrification Administration which supplies electric power and telephone service over some of the more sparsely populated areas of the State. The R. E. A., unlike other cooperatives, was started by the federal government which financed the original investment through a long loan which is being paid back by the users of these services. There are also the Production Credit Associations and the National Farm Loan Associations which finance farming operations and purchases of land. These were originally sponsored by the federal government but are now almost wholly farmer-owned and controlled.

It should be noted that the sales (marketing) cooperatives may be divided into two distinct groups, both of which are existing in the Carolinas. One is the type of cooperative which actually takes title to the commodities that are offered for sale by the producer. In this type of business, the producer is paid by the cooperative as soon as the products are weighed and graded when the two parties agree on a price. The second type of cooperative is quite common in vegetable, fruit, and livestock cooperatives both in the state and elsewhere. It is the one where the cooperative acts as an agency for the producer in selling the agricultural products and the farmer must wait for the cooperative to find him a buyer before he receives payment for his farm products.

Although there is no proof as to how cooperatives will work on a large scale in the Carolinas, it may be observed that cooperatives have proved to be quite successful in the north central states as well as in the state of California. These cooperatives have benefitted the farmers in decreasing the cost of marketing and increasing their final checks. How large scale cooperatives will result in the Carolinas is unknown, but by observing the smaller units in the South, it may be concluded that cooperatives play an important role in agriculture.

Will Cooperatives Work in the Carolinas?

W. E. BYRD, Ag. Ec., '54
NEWS BRIEFS

By DOUG OWENS, News Editor

Jack D. Early, one of the graduates of entomology in February of 1953, is doing graduate work here at Clemson.

Harold E. Walker, who graduated as an arts and science major in 1948, is back at Clemson doing graduate work in entomology. Harold decided to come back to school after teaching four years at Anderson Junior High School.

Dr. Edwin B. Collins, who graduated in dairy in 1943, is dairy bacteriologist at the University of California, Davis, California.

Dr. L. R. Arrington, a 1940 dairy graduate is biochemist at the University of Florida.

T. C. Breazeale, Jr., who graduated in dairying in 1942, is zone sales manager for Southern Dairies in Knoxville, Tennessee.

E. L. Corley, 1949 graduate, is completing the required work for a Ph.D. degree at the University of Wisconsin. He has been an instructor in the Department of Dairy Husbandry for the past year.

Peter McCall, a 1953 graduate in agronomy, is now doing graduate work at the University of Wisconsin. While attending Clemson, Peter was advertising manager for The Agrarian.

Pat Fulmer, a horticulture graduate, is working on his master’s degree in entomology here at Clemson.

H. J. Sefick, professor of horticulture at Clemson, is carrying on a breeding program with grapes. He is breeding a seedless variety which is resistant to anthracnose disease. There is much hope that he succeeds.

The new varieties of Southern High Bush blue berries, resulting from breeding, are larger, and smaller seeded, than the old variety. They also have good quality. They look like a good bet for the home garden.
AUTUMN MEDITATIONS
By JOE O'CAIN

Church rafters vibrate
From organ swell;
Then, growing calm again,
Intense become my heart.
Autumn leaves,
Bronze asters
Nipped by December's frost,
Somber faces,
White candles,
And prayer
Make such a quiet church
At Communion.

Then I knelt upon the velvet altar, Love and Life,
Twin brothers,
Encircled me, guided me, and lead me.
The music stopped, but the candles glowed
Like Chivalry spears . . .
I prayed humbly.
And God spoke to me softly.
"This is my body . . .
Broken
For you.
This do
In remembrance of me."
Sweet Communion.

If He called
I could not answer,
For Life I have not lived

One brown chestnut,  
A lost leaf —
Crimson,
An azure sheet stretched as
Eternity's sign,
One thrust of pain
And wisp of dying beauty
From Earth's sweet womb:
For these —
Dear Master —
Thanks.

I see a red-cloaked world take form,
And fire and clouds and vapor rise
And vesper's scarlet arches rise
From melted-marveled azure skies!
I hear a new hymn in this world . . .
And the sleepy, peaceful notes sublime
Bid a farewell celestial, song divine
"Farewell, old earth"; this rose is mine!

PRAYER OF THANKSGIVING
For food of thought and food of mind,
And bodies free from sin—
For strength and wisdom of this day,
We ask, dear Lord, Amen.
—Joe O'Cain, '54

OVER THE HILLS . . .
(Continued from page six)

Most of the soils of the Piedmont, however, are made from granite. These soils are of sandy texture and fairly well drained. Up-Country soils are more fertile than those of the Coastal Plain, and yet, on the whole, their physical characteristics are not as good, and plant roots cannot develop as well in them.

Thus, temperatures, rainfall, and geology have all contributed to the making of South Carolina's soils. The present characteristics of South Carolina soils are a result of the inter-action of these and related factors, plus, of course, the influence of man since South Carolina was settled. Taking all these factors into consideration, we might even go so far as to philosophize and say that there is much more in land than there is in the man.

FOURTEEN

Compare - - -
PET HOMOGENIZED MILK

AND
PET ICE CREAM

with any other

THE AGRARIAN
KEEPING OUR CROPS HEALTHY
(Continued from page nine)
simply due to the fact that the average farmer didn’t have at his disposal the information that has resulted from years of intensive research in the field of Plant Pathology, and the specialized personnel that are available today.

If a farmer finds that some disease has attacked his crop, it is a simple matter to secure accurate disease identification and sound control recommendations. County agents or local agricultural teachers are usually able to provide this information for the most common diseases, but if the disease is beyond their scope, the problem can be referred to the State Extension Service Pathologist, or the State Experiment Station where the services of specialists in the art of disease control are offered the farmer.

For the least financial loss and most effective control of a disease, a farmer should seek and employ measures as soon as the disease is discovered. If he desires outside help in identifying a disease, he should select a plant exhibiting well defined symptoms of the disease in question in its active stages of development. If it is necessary to ship the plant, it should be packed in such a way as to prevent drying or crushing while enroute. A far greater number of definite identification of diseases can be expected if the Pathologist receives fresh material as compared with the result that can be expected from a diagnosis performed on dryed or crushed material.

In order for the South Carolina farmer to successfully compete with the other farmers of the world and increase his profits, he should employ every possible means to insure disease free crops.

Dr. G. M. Armstrong, head of the botany department, and his wife, Dr. J. W. Armstrong, gave two papers on wilt diseases at the meeting of the American Institute of Biological Sciences held at the University of Wisconsin, September 7-9.

Mr. Van Blaricom, professor of food technology at Clemson, presided over several of the scientific sessions at the meeting of the American Society of Horticulture Science. These meetings were held September 7-9 at the University of Wisconsin.

Duane Rosenkrans, a 1948 graduate in agronomy, is now agriculture extension editor for the State of Mississippi. While at Clemson Duane was co-editor of The Agrarian, national president of the student activities section of the American Society of Agronomy, member of the Alpha Zeta, and member of Phi Kappa Phi. Duane is the son of Professor Rosenkrans in the botany department.

Harry Lightsey, another former editor of The Agrarian and also a 1952 animal husbandry graduate, is now a sophomore in the school of veterinary medicine at the University of Georgia.

John Pitts, Agrarian editor in 1950 is now connected with the sales promotion department of the Spartan Grain and Mill Company.

Charles M. Brown, agronomy graduate in 1950, is now completing his graduate work toward a Ph.D. degree at the University of Wisconsin.

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NOVEMBER 1953
Off Campus Training

By GENE NORRIS, VAE '54

Beginning the second semester, 1953-54, seniors in Vocational Agricultural Education will have the opportunity of doing their "practice teaching" in high schools in various parts of the State.

This new program is referred to as off-campus practice teaching. Under this program seniors majoring in Agricultural Education are being sent out into various parts of the state to teach for six weeks. Before going out, they must complete their theory work in the first nine weeks of the semester. This means that some courses must be more intensive and completed in a shorter time.

After teaching for six weeks, the student teachers return to the campus for a three week review period to evaluate their activities and correct any apparent weaknesses.

In order to effectively carry out such a program the student should not carry over eighteen credits, six of which will be practice teaching and the other twelve consisting of education courses and Military Science. The Military Science Department has consented to the accelerated nine week program for student teachers.

In the past, the practice teaching program has been carried out in the nearby schools. However, there are many advantages of having the student teachers get their experience off-campus in various schools of the state. First, the student can concentrate entirely on his teaching without college duties or other classes to interfere. Authorities have found that the student teacher learns more about teaching vocational agriculture when he becomes an integral part of the school and community by participating in the church activities, school organizations, F.F.A., P.T.A., and individual work with pupils. This program also offers the student teacher an opportunity to find out if he likes teaching. Another reason for establishing the off-campus program is to give the student teacher a chance to teach in a community where the type of farming is similar to that which he prefers after graduation. Heretofore it was only possible to train seniors to teach in the type of farming found around Clemson.

The off-campus program was introduced to Clemson after a careful study was made by the State Supervisor of Education and the teacher trainers of Clemson. The results of their findings indicated that this program was the most desirable method to train future teachers. Georgia has used this program successfully for a number of years. Practically all other states are using off-campus training.

Under this new program, only the best teachers in the state are used as supervisory teachers. To assist in this program, ten teachers have been chosen on the basis of their outstanding work in teaching agriculture and community development. These are as follows: Lewis Carter, Wampee; J. M. H. Clayton, Belton; C. W. Pennington, Anderson; Floyd Johnson, York; W. F. Moore, Taylors; C. H. Cooler, St. George; Boyce Todd, Saluda; Frank Chastain, Central; A. L. Smoak, Smoaks; and H. L. Stoudemire, Mullins. One or two student teachers will be sent to a school for the training period. These men will live in the community and serve as assistant teachers in the various activities of the local department.

Seniors desiring to live at home or to teach in their home communities are discouraged by the teacher trainers because of discipline problems often incurred by familiar pupils and because of other inconveniences such as social obligations. The College has made arrangements to make refunds on laundry, room and meals while the student is away from the college.

The program under each supervising teacher will vary to some extent, although all will follow practically the same pattern. During the first week, the student teacher will observe the local teacher, study the local program and get acquainted with the students. After adequately observing the supervising teacher and visiting the pupils on their farms, the student teacher should know what materials he will need to use and be ready to begin teaching the second week. He will be expected to teach every day until the remainder of the six weeks are finished. His teaching experiences will include classroom discussions, farm shop, use of visual aids, and field trips. Close supervision by both teacher trainers and the supervisory teacher is necessary in order to develop the student and evaluate his progress.
A Thanksgiving Soliloquy

"I've heard it said the world's a dismal place.
But I know better . . .

for I have seen the dawn, and walked in the
splendor of a morning's sun . . . blinked at the brilliance
of the dew, and beheld the gold and crimson
of an autumn landscape.

"I've heard it said the world is sad.
I can't agree . . .

for I have heard the cheerful songs
of feathered masters . . . heard the low laughter
of the leaves, and the everlasting chuckle
of a mountain brook.

"I've heard it said the world's a musty, sordid thing.
It can't be true . . .

for I have seen the rain . . . watched it bathe
the earth, the very air . . . and I have seen the sky,
newly scrubbed and spotless, blue from end to end . . .
and I've watched the Winter's snow drape tree and bush,
to look like Nature's freshly laundered linen hung to dry.

"I've even heard it said the world is evil.
But they are wrong . . .

for I have known its people . . . watched them die
to save a freedom, bleed to save a life . . . spend of themselves
to stem disaster, of their wealth to ease distress . . . and
I have watched them live, love, and labor . . . watched them
hope, dream, and pray, side by side.

"I have heard them say these things.
But I would disagree . . .

because, for every shadow, I have seen a hundred rays
of light . . . for every plaintive note, I've heard a
symphony of joy . . . for every pennyweight of bad, I have
found a ton of good . . . good in Nature, in People,
in the World.

And I'm thankful I belong."
Have you ever wondered how plants reproduce? They have sexes somewhat as animals do. Some have both male and female organs in the same plant, while others have these organs in different plants resulting in female and male individuals. Regardless of these differences, the pollen from the male organ must be transferred to the female organ if seed is to result.

Pollination is the transfer of pollen from the anther or male element of a flower to the stigma, the female element. This process must be completed before fertilization (the union of the male germ cell with the ovary, or female germ cell) and eventual reproduction can take place. Self-pollination is the transfer of pollen from the anther to the stigma of the same flower or to the stigma of another flower on the same plant. Cross-pollination is the transfer of pollen from the stigma to the flower of another individual plant.

There are many agents necessary for the transfer of pollen, the most common being gravity, wind, and insects. The moist heavy pollen that cannot be carried by wind, are dependent on insects almost entirely. These insects include our native wild bees (bumble bees), leaf cutting bees, alkali bees (carpenter bees), beetles, flies, thrips, moths and many others.

By far, the most important of these insects is the common honeybee, *Apis mellifera*, whose very existence depends upon pollen and nectar from plants. Estimates are that 80% of all pollination by insects is accomplished by our little friend, the honeybee. Yields of fruits, legumes, and vegetable seeds have often doubled or even trebled by the simple addition of adequate numbers of bees.

One peculiarity of the honeybee, is its habit of usually visiting only one plant species at the time in its pollen gathering. This is very fortunate for us, because in this way only pollen that is capable of fertilization is transferred from one plant to another. For example, peach pollen is not transferred to pear trees.

Pollen is used by bees as a source of proteins, fats, vitamins, and other food elements. It is made into a material commonly known as "bee-

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developed for new
McCormick No. 52 tractor trailer gives fast, safe "floating ride" hauling

An all-new principle of wagon design has been developed by International Harvester engineers to make modern farm hauling safer, easier and faster. The new design includes Flexi-Frame construction, with twin-channel section reaches, to absorb shock and twists. Flexi-Frame causes wheels to glide—instead of bounce—over rough ground with "floating ride" smoothness. Fixed box supports distribute the load on the axles to reduce tipping and rocking. Also, wide 68-inch tread and low-built design gives the wagon maximum stability with all types of loads.

Auto-type steering with protected, steel-plate tie bar gives the front end extra strength—yet makes turning easier and eliminates road-sway. The section reaches, sag-proof axles and high-carbon steel spindles are IH quality-built to give many years of trouble-free service.

IH engineering teamwork produced the new Flexi-Frame design for the No. 52 tractor trailer. IH research, engineering and manufacturing men are constantly pooling their time and talent to solve farm problems—to provide equipment that makes farm work easier and the farmer’s time more productive!

INTERNATIONAL HARVESTER

International Harvester products pay for themselves in use—McCormick Farm Equipment and Farmall Tractors ... Motor Trucks ... Crawler Tractors and Power Units ... Refrigerators and Freezers—General Office, Chicago 1, Illinois
She: I'm a good girl.
He: Who asked you?
She: No one.
He: Then no wonder you're a good girl.
Landlady: How do you like this room as a whole?
Joe: As a hole it's fine; as a room it's not so good.

"If it's funny enough to tell, it's been told; if it hasn't been told, it's too clean; and if it's dirty enough to interest a frosh, the editors get kicked out of school."

The words "In God We Trust" were placed on pennies for the benefit of those who use them for fuses.

What you don't know doesn't hurt you, but it amuses a lot of people.

— Daffynitions —

A moron: A fellow who wrinkles his brow reading comic books.
Shotgun wedding: A case of wife or death.
Professor: A textbook wired for sound.
Confession magazine: A place where people write their wrongs.
Hamburger: Steak that didn't pass its physical.
Hypochondriac: A man who can't leave being well enough alone.
Better: What every girl should know.
Camel: A warped horse.

"That waiter is either a fool or a humorist."
"What's the matter?"
"I ordered extract of beef and he brought me a glass of milk."
"Don't worry," said the motorist who'd just run down one of the farmer's sows, "I'll replace your pig."
"You can't," shouted the farmer, "you ain't fat enough."

Confucius say, "Wash face in mornin, neck at night."
HOW THE MM UNI-FARMOR HARVESTS

Corn for the CRIB...
with the MM UNI-HUSKOR

Here's two-row self-propelled picking-husking that covers acres fast . . . takes corn from field to wagon box with less work than ever before. Just one bolt and four pins mount the Uni-Huskor attachment on the Uni-Tractor. These outstanding MM Huskor features mean lower-cost husking . . . cleaner corn . . . a thorough job that gets all the crop: Five-position floating snouts; four 53½" long snapping rolls; ten 36" husking rolls; husking raddle with rotating and side-to-side action; exclusive MM cleaning fan; roller bearings on all main drives. Built for long, profitable operation, the Uni-Huskor earns more, saves more, offers extra value for every dollar invested.

Corn for the BIN...
with the MM UNI-PICKER SHELLER

With the MM Uni-Picker Sheller attachment mounted on the Uni-Tractor, one man picks, husks and shells corn in one trip through the field. Combining all the advantages of MM Shellers, long the world's biggest sellers, with the thorough and dependable picking-husking action of MM Huskors, this revolutionary machine cuts corn harvest costs and time to a new low. What's more, the Uni-Picker Sheller efficiently handles corn with up to 25% moisture content . . . gets corn early, while the stalks are still standing. Cobs and husks stay right in the field to mulch the soil. For high speed corn harvesting that gives corn profits a healthy boost, the Uni-Picker Sheller ranks tops in the field.

Corn for the SILO...
with the MM UNI-FORAGOR

Now! New forage harvesting speed and economy that gets corn or hay ready for the silo in peak condition . . . with new machinery savings. It's the new MM Uni-Foragor attachment for the Uni-Tractor . . . with interchangeable heads to handle either hay or corn silage crops. Loaded with advantages like the heavy duty cutting head with four 16" hardened steel knives . . . powerful blower and big-capacity delivery pipes, the Uni-Foragor saves time when time is precious . . . helps get top value from every silage crop.

THE MM UNI-FARMOR NOW OFFERS 4 Machines in 1!

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