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LEESVILLE, SOUTH CAROLINA
The Agricultural Society of South Carolina

...... the oldest agricultural society in the United States, organized in Charleston in 1785 and since then a big factor in the advancement of agriculture locally and over the state; membership history shows many prominent figures.

By THOMAS B. YOUNG, Jr., '39

The State Gazette of South Carolina, August 29, 1785, contains the following notice: "On Wednesday, the 24th inst., a number of gentlemen met at the City Hall for the purpose of forming a Society in this State to encourage Agriculture, according to the resolves of the meeting on the 9th inst.; when the committee at that time appointed made a report; after which the gentlemen formed themselves into a Society under the Style and title of The South Carolina Society for Promoting and Improving Agriculture, and Other Rural Concerns; and proceeded to the election of officers, when the following were appointed: The Honourable Thomas Heyward, Jun., Esq., President; Thomas Pinckney, Esq., Vice-President, and Peter Bonnetheau, Esq., Secretary." Thomas Heyward made an address, and rules were adopted for the government of the Society. The address and rules appeared in the Charleston Gazette on that same date.

This was the beginning of the first and one of the most famous agricultural societies in the United States. Since this date this agricultural society has been endeavoring to do just what its title plainly says: "promoting and improving agriculture, and other rural concerns." Its members, energetic and resourceful leaders, many of them famous in the history of our state, have for 153 years been bettering agriculture in South Carolina both as a society and as individual agriculturists.

The names of some of the early members are familiar to even those very casually acquainted with South Carolina history, including John Rutledge, Thomas Pinckney, Gen. Charles Cotesworth Pinckney, Thomas Heyward, and Edward Rutledge. The name of the Society was changed by the Act of Incorporation, passed by the Legislature, Dec. 19, 1795, to its present name, The Agricultural Society of South Carolina; however, it is often referred to as the Charleston Agricultural Society. Its membership is drawn mostly from the Charleston area and its greatest activity has been in that area.

Through an earnest endeavor of the Society in its early days, plants and seed were imported from all sections of the world for experimental purposes. The following quotation from the minutes of the

(Continued on page 30)
Rotherwood Farm

...a model demonstration dairy farm. Its owner a powerful influence on Southern agriculture and the farm one of the foremost in the Southeast. ...

By JAMES E. BLESSING, '41

ROTHERWOOD farm, located in the valley of East Tennessee, is widely known throughout the United States for the development of some of the South's greatest Jersey herds. The 2,300 acre farm is located on the banks of the Holston river just outside Kingsport, a busy industrial center. The Old Rotherwood home, which overlooks the river, and historical Old Fort Robinson (erected in 1761) is a welcoming spot for everyone who visits there. For many years Rotherwood has been recognized as a leading farm, and it is now hailed as one of the foremost dairy farms in the southeast.

It is a model demonstration farm and is owned by Mr. John B. Dennis, who has been a powerful influence in developing Southern agriculture. At all times Mr. Dennis extends a hearty welcome to those who wish to visit the farm and see the development which it is carrying on. The manager cooperates with educational institutions in giving their students a broader knowledge of Southern agriculture and dairy herd improvements. The Rotherwood farm is known as a meeting place for judging teams from all counties in Tennessee and neighboring states, and students of the University of Tennessee receive practical experience in milk testing and herd management under the supervision of Mr. LaFever, the manager of the dairy herd.

The Rotherwood herd, which has carried its fame into all sections of this country and as far as Costa Rica, was started in the fall of 1927. Forty cows, representing the best blood lines of the Island of Jersey, were imported along with one herd sire, Boutilliere's Brampton Lad 279978, prize winning son of Bowlina's Oxford Sultan 254623. Now mostly home-bred, the herd has maintained the uniformity in type that prevailed in the original herd. Two-thirds of the entire herd carry the blood of LaFosse Golden Beauty, who recently died in her 17th year. Her progeny have been outstanding in both show ring and production circles.

The present herd, numbering eighty-five, is headed by Boutilliere's Ivanhoe, Silver Medal Tested Superior Sire (322786) son of Boutilliere's Brampton Lad, Gold and Silver Medal Tested Sire, and out of LaFosse Golden Beauty 772539, Gold Medal Tested Dam. He was the first Jersey bull in the South to become a Superior Sire, bred and developed by the same owner. Among the noted members of the herd are the five daughters of LaFosse Golden Beauty and the daughters of one of her son's. These have produced an average of 645.55 lbs. butterfat; 11,795 lbs. milk; av. per cent 5.47. Boutilliere's Ivanhoe has nineteen daughters officially tested with an average of 603.81 lbs. butterfat; 10,674 lbs. milk; 5.66 per cent fat on a mature yearly basis. Out of twelve daughters officially classified, four rated "Very Good" and eight "Good Plus."

Design's Brampton Noble 318955 Silver Medal herd Sire, Son of Design's Fern Oxford 287623 and

(Continued on page 31)
A Touch of Clemson Community History

once big Indian settlement, Pendleton later important government seat, low country planters had
summer homes over here, old Stone Church Cemetery veritable Westminster Abbey of upper S. C.

R. L. ARIAIL, '40

Mid the hustle and bustle of the every day
campus activity, or amid the excitement
and applause of a full dress parade or foot-
ball game, the average visitor seldom stops to think
or inquire about the history and points of historical
interest of Clemson and surrounding community.
As a matter of fact, this community can boast of
a past history that is unequalled by most up state
communities.

Even before the coming of the white man, this
section was a center of activity, for located at the
foot of a high bluff on the college farm is the site
of the Indian Village, Esseneca. This village was
the southernmost of the larger villages of the great
Cherokee domain, which stretched northward ac-
ross the Blue Ridge. At the top of this same bluff
Fort Rutledge was erected in 1776 by General
Andrew Williamson. The approximate location of
the fort is marked by a small concrete replica and
bronze tablet.

The nearby town of Pendleton was for many
years the most important seat of local government
in northwestern South Carolina. It had its beginning
in 1790, when the commissioners provided by the
act of 1789 to select a seat of government for Pend-
eton County, selected the site of the present town.
In Pendleton we find the Pendleton Farmers Society
hall, the oldest in the United States. It was while
Thomas G. Clemson was president of the society
that a movement was begun for the founding of
Clemson College. In the cemetery of St. Paul’s
Episcopal, an old church of the village, Thomas G.
Clemson and his wife Anna Calhoun Clemson are
buried. Here also is buried General Barnard E.
Bee, who gave General Jackson his sobriquet, Stone-
wall, at the battle of Manassas.

Many low country planters had summer homes
in and near Pendleton. Among the old homes still
standing are Altamont and Woodburn, homes of the
Pinckneys; Astabula, home of the Gibbs and Lattas;
Boscobel, home of the Prioleaus and Adjers and
Micassa, home of the Stewarts and Calhouns.

Of all these and many other interesting points,
probably the most interesting is the Old Stone
Church and cemetery, located on a country road
about three miles south of Clemson College. The
church organization, known as Hopewell on Keowee
and dating from 1785, first occupied a log building
but later built the present stone structure in 1797.
This was one of the first Presbyterian churches in
upper South Carolina, and was the parent of the present
Presbyterian Church of Pendleton.

In the cemetery is the grave of John Miller,
better known as Printer John Miller to distinguish
him from his son and grandson whose names were
also John. Printer John Miller was a native of Lon-
don, England, where he was one of the owners of the
London Evening Post. He dared to defy the officers
of George III and published articles held libelous
by English courts. After suffering imprisonment
he became disgusted and left his native shores in
1782. He first migrated to Philadelphia and later
moved to Charleston, where he published the South
Carolina Gazette and General Advertiser, one of the
first papers in South Carolina. After receiving a
grant of six hundred and forty acres on Eighteen
Mile Creek, he sold the Charleston paper and re-
 moved to Pendleton, where he established Miller’s
Weekly, later known as The Pendleton Messenger,
one of the earlier up state papers. It was from this
grant that he gave land for the church and cemetery
which included about seventeen acres.

Among other interesting men buried in this
cemetery are Colonel Robert Anderson, a leader in
the Revolutionary war; General Pickens, another
Revolutionary leader, and his son, Andrew, Gover-
nor of South Carolina during the war of 1812, and
Turner Bynum, a brilliant young journalist who was
killed in a duel in a Nullification Controversy, in
1832. Also the veterans of four wars rest in the
cemetery—the Revolutionary, the War of 1812, the
Indian Creek War of 1815-1816, and the War Be-
tween the States.

The Old Stone Church and cemetery is ad-
ministered by a nonsectarian, self-perpetuating com-
misson, and the cemetery is maintained by the in-
come from a small endowment. The upkeep of the
church, however, depends at present upon the in-
terest of the public. Surely every Clemson boy and
every interested visitor should visit the Old Stone
Church and take pride in its upkeep as a monument
to those of an earlier date—the founders of our
nation.
MATCHING INDUSTRY’S PROGRESS

By T. S. BUIE
Regional Conservator, Soil Conservation Service

ECONOMISTS tell us that the best community is one in which a proper balance is maintained between agriculture and industry. And surely the Piedmont section extending through the Carolinas and Georgia, with its abundant water-power, plentiful rainfall, mild climate, and the adaptability of its soils to a wider diversity of crops, has ideal possibilities for maintaining such a balance.

The Piedmont section from its earliest history has been an agricultural region. But within recent years it has also become highly industrialized. One may travel by train on the Southern Railway or by car on U. S. Highway 29 for several hundred miles without more than momentarily being out of sight of a high smokestack of some mill or factory.

But this same section is noted for the careless manner in which the soil has been treated by its owners. Secretary of Agriculture Wallace has said that farmers of this section have treated their soil with less concern, and have mistreated it more than farmers of almost any other section of the country. This is indeed a severe indictment. But one has only to travel the route mentioned above or fly at a high altitude over any portion of the 40 million acres constituting the Southern Piedmont to realize the accuracy of Secretary Wallace’s statement.

An agriculture built around cotton and corn—crops which are planted in April or May and harvested in September or October—does not provide for protection of the land. The soil lies bare for many months, and even the growing of crops affords little protection to the soil, for the method of frequent cultivation appears designed particularly to provide for maximum soil losses. Each succeeding rain exacts its toll of soil especially during the winter months when most fields are bare.

Ever-present rills are an indication of excessive sheet erosion and the beginning of gullying in most fields. Every stage of erosion may be seen within the space of a few miles. Steep hillsides recently cleared, probably not for the first time, nor even the second, are beginning to wash again.

This was not always the picture of the Piedmont section, for the early settlers have left us a record telling of clear streams, dense woods, and a deep, fertile soil. But today we see the landscape dissected by gullies, many of them 40 feet or more in depth and stopped only by having reached a practically level grade with the stream to which they contribute or the crest of the ridge separating two drainage areas.

A few days ago I stood on the bank of one of these Piedmont streams and saw rush by the muddy water so typical of this section. At first glance what I saw appeared to be merely fine particles of soil being carried along in suspension by the water, and imparting to it a brownish-yellow color. But the swirling water fascinated me. Like the sphere in which a crystal gazer reads the past and future, the stream itself, once crystal clear, seemed to be unfolding before me the very life history of the country.

And indeed, in its real significance, the suspended material in the water was presenting a veritable panorama of past and future events, more real than the fancied images which the crystal gazer sees. For here the fertile topsoil from a thousand fields was being swept ruthlessly to the sea, carrying with it the promise of high yields, profitable crops, a justifiable income, and a living wage for the tiller of the soil. Here in material form were passing the hopes and aspirations of a people for better opportunities for their children.

Intensely human are these hopes: The natural desire of a father for the education of his son or daughter; the hope of cultural advantages which come with better schools, churches, social activities; the hope of some day being able to afford what all of us have come to regard as the necessities of life—the simple luxuries, perhaps an automobile, an opportunity to visit one’s relatives, or for the overworked farm wife the hope of water in the kitchen, a new piece of furniture, or a rug to cover the rough floor.

But when are such things to be had, how are they to be afforded if our productive soil continues on its way to the sea without interruption? It is not enough to dismiss such considerations by saying that this is the farmer’s worry, that manufacturers and business men are not concerned. Not even industry and business can flourish permanently when their roots are anchored in sterile soil.

For if the farmer cannot produce beyond his bare requirements, how can he buy automobiles, travel by train, pay for transportation of goods produced elsewhere, purchase fertilizer, buy farm im-
plements, obtain furniture, pay taxes to pave roads support schools, build churches, develop rural electric lines, or do any of the other things which our complex civilization requires that he do in bearing his part of the community burden? Finally, families driven by unrestrained erosion from the land where they were once self-supporting must eventually become a burden upon others.

Industrial development, only recently established in this section, was set up in the beginning along modern lines. But agriculture, fettered by the habits of generations past, has sought to solve its problems in an increasingly complex civilization by outmoded methods. While preserving the identity and individuality of the farm unit, we can and must by cooperative action and land-use planning put agriculture on an equal footing with industry and at the same time conserve our basic soil resources.

Let us look for a moment at the organization of industry and compare it with the situation in agriculture. The textile mill as the typical unit of industrial organization in the Southern Piedmont presents a picture of efficiency. Several thousand skilled workers living in a compact mill village perform their daily tasks under the direction of foremen, superintendents, and other supervisors who in turn direct the work in accordance with the policy of the mill executives. Purchases of raw materials are hedged against price fluctuations, production is geared to public demand, and the finished product is sold in the most favorable market. Every man in this smooth-working organization is a specialist in his particular line.

In agriculture, individual ownership of farm land and devotion to our democratic processes preclude the possibility of working out such a system. For a man's farm is his home, therefore his castle. But compare the efficient organization of industry with the situation in agriculture, where the individual farm is the unit of organization and the individual farmer must necessarily serve in the capacity of buyer, skilled laborer, and salesman of the product of his industry. He is dependent upon the vagaries of the weather, the whims of the market, and the uncertainties of insect damage. To do an effective job even under favorable circumstances he must be a soils specialist, agricultural engineer, agronomist, forester, weather prophet, and market forecaster.

How then can we hope to maintain a balance between agriculture and industry with so many advantages of operation in industry's favor? I think the new approach we are making to the problem through farmer-organized soil conservation districts is the answer to that question. We cannot duplicate the structure of industry, but we can approximate industry's methods in the district program. Under appropriate state legislation, groups of farmers with a community of interests and with related problems are enabled to weld their farm units into an effective organization for carrying out their common aspirations. Their own local representatives—a small body of elected and appointed supervisors—serve as the governing body of the district and determine the land-use program and other objectives.

In this new set-up, the farmer and his government, both federal and local, are partners in a great endeavor to conserve our soil resources and improve our farm living conditions. It is a democratic approach to the solution of the problem for within

(Continued on page 32)
The Soil Acidity Problem in South Carolina

... timing and diversification of crops suggested as means of improving agriculture in the one crop, poor farmer South, ...

By R. L. ARIAIL, '40

It is now generally accepted by all that the South is relatively poor in actual wealth and deficient in many things of a scientific and social nature. It is also generally accepted, however, that the South is rich in natural and human wealth. It needs only the development of this natural wealth and the utilization of the human wealth for the creation of such artificial wealth as accumulated capital, as a means of securing material and social satisfaction. It is necessary that we consider these deficiencies and develop or alter them where necessary in order to maintain an economic balance with the nation as a whole.

Artificial wealth depends upon technological skills developed in connection with institutional services. Without intelligent effort directed in this way it is not possible to utilize adequately the natural resources.

Since we are relatively poor as a region and since agriculture is our leading industry from which a large part of our wealth is derived, it naturally falls that there must be something wrong with our system of agriculture. In South Carolina, a typical southern state, the one crop system has long been hailed as the main evil in the face of agricultural progress and prosperity.

In South Carolina cotton and tobacco, and especially the former, are recognized as the great cash crops of the state, and it is upon cotton that the very economy of the people is based. But cotton is losing its relative position in world trade and its extensive cultivation, as a row crop, has permitted serious exploitation of soil fertility. It naturally falls that a more diversified system of agriculture has to be adopted if we hope to build a profitable and permanent system of agriculture in South Carolina.

There is a major obstacle, however, in developing a suitable diversified system of agriculture, and that is the high acidity of the soils in our state. The soils of South Carolina are naturally acid, but the long and continued use of fertilizers in the production of such acid-tolerant cash crops as cotton and tobacco has greatly intensified this acidity.

From tests made on over two million soil samples taken from different sections of South Carolina, it was learned that approximately 40 per cent of the agricultural lands in the state are so extremely acid that they are not capable of producing a sufficient income for a satisfactory standard of living. Even cotton and tobacco, the crops which are most resistant to high soil acidity, cannot be grown economically on these lands.

Another 40 per cent of the agricultural land was found to be of a moderate acidity which will enable cotton and tobacco to be produced only if relatively large amounts of fertilizer are used.

Only about 20 per cent of the cultivated land was found to be of a low enough acidity to support a profitable live-at-home program. A large proportion of our total agricultural profits are derived from this land, which is far too small proportionally to affect materially the agricultural income of the state.

It is only through the use of lime that this soil acidity can be corrected, and it follows that it must be corrected if we are to develop a suitable diversified system of agriculture including major livestock enterprises, which are necessary for the much needed live-at-home program.

Under the present system there seems to be a concentration of farm labor during the months of March, April and May in the spring, and September and October in the fall, while there is a sharp drop in the labor during the rest of the year. This is accounted for by the cultivation and harvesting of our present predominating crops. There also seems to be, under the present system, a rather slow turn over of the capital investment. This condition can be remedied by growing other crops and producing more livestock, which will provide productive work throughout the year and also insure a more even distribution of the income.

It has been through the efforts of Dr. H. P. Cooper, Dean of the School of Agriculture at Clemson College, that the attention of farmers and farm leaders has been focused on this serious problem. Dr. Cooper, realizing that the future of southern agriculture lies in the remedy of this problem, has assumed the leadership in making this remedy effective in South Carolina. In his report on the soil acidity problem in South Carolina, Dr. Cooper

(Continued on page 33)
Livestock Coming South

W. L. Eidson, '41

It is well understood that diversification is one of the best answers to the present problems of the farmer. We are also aware of the fact that the use of livestock is the most satisfying method of balancing the South Carolina farmer’s program.

There is a distinct need for an increase of livestock in South Carolina. It was recently reported that of 160,000 farms in South Carolina there are 66,000 with no hogs, 52,000 with no cows, and 19,000 with no chickens. It was estimated that if imports of livestock products to South Carolina were suddenly stopped, this state would have only enough such products of her own on hand to supply a regular diet for a period of six months. These are facts of which South Carolinians should be profoundly ashamed.

Workers in Animal Husbandry in South Carolina are striving diligently to increase the number and quality of livestock products in this state, and they are very optimistic about the results they expect to obtain. Much has been done to aid farmers in getting started on the road to successful livestock production. Extension workers, county agents, and agricultural teachers have fostered such activities as importations of purebred livestock, feeding demonstrations, cooperative marketing, purchasing lime for the soils, and livestock shows. All of these activities have realized very fruitful results.

For a long time a big need of the livestock industry in this state has been that of improved breeding stock. It was very hard for farmers to secure outstanding animals with which to breed unless they bought them from a long distance. There are now a number of breeders throughout the state who can furnish highly bred animals of the most popular breeds at very attractive prices.

Feeding demonstrations have been a great medium in teaching the farmer how to feed his hogs in such a manner as to produce pork of the quality that would command the highest market prices. Cooperative marketing has opened a channel for the farmer to market his hogs for the highest prices at a minimum cost.

Recently a great drive has been launched to teach the farmers of South Carolina the value of lime applied to our soils and to encourage the use of it as much as possible. Realizing that the soils of South Carolina are acid, and that our best pasture grasses are adapted to alkaline soils, we believe that liming the pastures of this state will prove to be one of the most profitable ventures undertaken by our farmers in recent years.

Interest in livestock showings in South Carolina are steadily increasing and their value should not be overlooked. Time spent at these shows by farmers is time well spent because after seeing the quality expected of animals by our livestock authorities, they are much better prepared to select and breed animals of a higher quality.

Livestock prospects of the entire South have aroused the interest of our leading meat packers. Mr. F. W. Hoffman, Vice President of the Cudahy Packing Company said, “The South is fast becoming a livestock country. Cattle and hogs, which form one of the most dependable and most important sources of farm revenue, are taking their place in Southern agriculture.” We should be very proud of the fact that the livestock industry is steadily increasing in importance in the South. We certainly hope that the livestock industry will live up to the name won by the hog as the “mortgage lifter”, and we sincerely believe that it will.

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AGRICULTURE'S RELATED INDUSTRIES

Agriculture and Engineering
By CLINTON COOK, ’39

One look at a modern farm quickly reveals the close relationship that engineering has to agriculture. This relationship extends back to the first civilizations in the great river valleys, where agriculture and engineering began together. Records show that the need for irrigation of the land for the purpose of agriculture developed skilled hydraulic engineers even in the earliest times. Civil engineering in the form of surveying was originated because of the need of boundary lines between farms in the Nile valley. These boundaries, obliterated each year by the river flood, had to be remarked by engineers.

Though engineering and agriculture have always been closely related, it was not until the end of the nineteenth century that the two really began to coordinate their efforts. The invention of the cotton gin by Eli Whitney and the invention of the reaper by McCormick were quickly followed by a series of developments which put agriculture on a mass production scale. The mule has been replaced by the tractor, which has many times the mule’s capacity.

With the mechanization of agriculture, it behooves the farmer to become versed along engineering lines. He must be able to maintain, operate, and repair complicated agricultural machinery. At the same time, in order to understand the needs and problems of the farmer, the engineer must have an extensive knowledge of agriculture. Through the study of farming problems, he is enabled to design and build equipment capable of promoting the high standards of modern agriculture.

The closer the bond between the farmer and the engineer is drawn, the greater the advantage to the South, which is principally an agricultural section. Thus, agriculture, with the aid of engineering and its related subjects—chemistry, textiles, and architecture—will soon put the South where it belongs—the nation’s number one economic opportunity!

Agriculture and Architecture
By T. E. GOODSON, ’40

The government is trying to breathe into the agricultural industry new life, new hope, and ambitions. The south, once called our economic problem number one, is now encouragingly referred to by the patriotic people of the southland as the nation’s principal economic opportunity. Millions of dollars have been spent to encourage the agricultural people to work hard for neat, livable homes, to educate their children, to cultivate their land scientifically, and to interest themselves in landscape improvements. In these government projects the architect figures prominently for it is he who designs the modern country home, plans the utility buildings on the farm, and arranges their building sites with convenience and quaint beauty in mind. He suggests improvements to houses already standing, from simply whitewashing the houses and fences, to entirely reconstructing dilapidated dwellings. Rose trellises, and flower stands are used to promote interest in flowers, and general landscape improvements. Methods of landscaping are suggested with their costs and results primarily considered. Clean yards, low hedges, whitewashed fences and houses, concealed trash piles and stock pens, all in time make a man take pride in his home. Without this pride he becomes a hopeless machine and a dissatisfied, unpatriotic citizen.

Of this nation’s industries, two stand out predominantly for their tremendous influence on the prosperity of the country as a whole. These are the agricultural, and building industries, respectively, the sources of man’s food and shelter. In such fundamental terms, the importance of these economic activities becomes obvious.

It is an axiom among the nations of the world that agricultural prosperity means a natural civil prosperity, or one based on sound economic principles. Through such business security, architecture is allowed to flourish, and express the people of the period.
The Rise of the Peach Industry in South Carolina

By R. J. Ferree, '39

The year 1920 marked the beginning of a new era in peach production in South Carolina. There were three outstanding factors largely responsible for this: the appearance of the boll weevil; the stimulus of very high prices for peaches in Georgia; the Sandhills of North Carolina; and satisfactory results from previous plantings in this state.

Previous to 1920 there were a few commercial orchards. Col. R. B. Watson of Ridge Springs in Saluda County is credited with shipping the first peaches from South Carolina. He had a very small commercial orchard from which he made his first shipments in 1872, according to the most reliable information available. The first orchard of any importance planted in the Piedmont section was that of Mr. J. V. Smith of Greer. Other plantings of minor significance were made in McCormick County in 1916.

Disease played an important role in the early era of the fruit industry. In the early nineties, for example, planting in the Ridge Spring section was cut short with the advent of the San Jose scale, (pronounced San Hozay). This insect, with others, caused practically a complete abandonment of this early enterprise but soon after 1900, a control for the San Jose scale was developed.

A few small commercial plantings were made in Spartanburg, Greenville, Chesterfield and Laurens Counties in 1920, 1921, and 1922. These plantings, with others in those counties, especially Spartanburg County, continued to grow at a more or less uniform rate until 1933, at which time plantings increased tremendously. From 1933 to 1938 plantings more than doubled and in Spartanburg County were more than tripled. In the last eighteen years the number of trees have increased from a comparatively few thousand to a figure well over three million.

It is not known when the first car of peaches was shipped from the state, but in 1923 there were only sixteen cars shipped. The rate of shipments increased steadily since 1923, the total crop amounting to 3,000 cars in 1938; 1737 cars were shipped by rail, and the remainder shipped by trucks or sold locally.

Spartanburg County quickly sprang into the lead in the number of trees planted and the number of cars produced. At the end of 1922, Spartanburg had 14,812 trees in commercial planting, and the increase in this county to the present date has been largely responsible for the enormous increase in the state. Rising from insignificance, Spartanburg County now ranks within the three top-ranking counties in the United States in growing peaches for the fresh fruit markets.

According to the most reliable figures obtainable, there were over two million trees in the state at the end of the 1937-38 planting season, this figure including only plantings of 500 or more trees. To bring the figure up to date and to include plantings of less than 500 trees, the figure is increased well beyond the three million mark. The following is a list of the ten highest counties in South Carolina listed in order of the estimated number of trees, which includes all plantings, regardless of number: Spartanburg, 1,600,000; Chesterfield, 250,000; York, 175,000; Saluda, 167,000; Greenville, 150,000; Cherokee, 145,000; Edgefield 115,000; Laurens, 67,000; Kershaw, 60,000; Lexington, 48,000. Less than one third of the trees planted are in production, and a safe estimate of the crop five years hence would be from eight to ten thousand cars, five thousand cars or more coming from Spartanburg County.

The principle variety grown is the Elberta, and of the dozen others grown, the Elberta comprises seventy-five per cent or more of all varieties. The Hiley variety is next in importance, followed by Golden Jubilee, and Early Rose. Recently varieties similar to Elberta, but maturing later than the regular Elberta, have been planted rather extensively. The Elberta variety is almost ideal for the Piedmont when the different ripening dates are considered for the Southeast. It follows the Elberta season of Georgia and is earlier than the main varieties grown farther north along the Atlantic Seaboard.

The success of this comparatively new enterprise is due to several factors, foremost of which are the highly developed cultural practices, standardization, and marketing. The Experiment Station and Extension Service have rendered invaluable service to the growers by giving advice and solving their problems. The Extension Service has a demonstration plot near Inman under the direction of Mr. E. H. Raul, and it has been of great value to the peach industry in that locality. In 1935 an unbalanced nutrient problem showed up in several orchards, and it was found to be caused by applying only nitro-
gen carrying fertilizers year after year, with the result that the supply of phosphorous, potassium, and calcium became deficient. This problem was solved and the solution demonstrated in the Extension Service demonstration plot. The Experiment Station has two experiments in progress on Orchard Nutrition under the direction of Prof. A. M. Musser. One of these experimental plots is located in the orchard of Mr. R. B. Blackwell, near Inman, and the other is located in Land Bros. orchard, near York. These projects will be of great value, for they give promise of producing far-reaching results on a more permanent basis. The experiments carried on at the Sandhill Experiment Station have been, and are, greatly aiding the growers to solve their orchard problems, principally problems of nutrition. The two experiments in the Piedmont have only been run two years and very few of the results have been released, while the experiments at the Sandhill Station have been run a number of years and the growers in that locality have already been greatly benefited by the results obtained.

South Carolina growers have marketed their peaches cooperatively since 1923, when the South Carolina Peach Growers Association was formed. This cooperative marketing agency has enjoyed success from the beginning, and it has grown steadily since its establishment. The home offices are now located in Spartanburg and Mr. T. H. Cribb has been the manager since the removal of the offices from Florence to Spartanburg. This association has very efficiently handled at least seventy per cent of the Spartanburg County crop and about fifty per cent of the total crop of the state last year. It is the policy of this organization to promote the production of better fruit, put up a superior pack, and to get the fruit to market in the best possible condition. This policy is getting results, since the peaches handled are beginning to be given preference on the eastern and western markets because of the quality and condition of the fruit.

A new phase in the promotion of the peach industry was undertaken last summer. Because of market conditions prevailing prior to the shipping season, an advertising campaign was started to induce a greater consumption of fresh peaches. This new undertaking was so successful that growers of North Carolina, South Carolina, and Georgia are laying plans to put the advertising campaign on a larger and more permanent basis. An advertising campaign is a very wise move in view of the fact that when the trees now planted begin to bear there is a prospect of an annual production of over ten thousand cars of peaches in South Carolina.
FLACK, A WORKING COLLIE

J. M. LAPHAM, '39

I am His Highness' dog at Kew;
Pray tell me, Sir, whose dog are you?"
Pope—on the collar of a dog.

There are three distinctive strains of Collies: the bearded collie, the sable and white collie, and the working collie. Most of use are familiar with the first two strains, but have never seen a working collie. The reason is evident, because there were only two such dogs in the United States back in 1922. These dogs were named "Flack" and "Mattie", and it is in Flack that we are interested.

Flack was born in Scotland, and could not understand our language at first when he was taken to Chicago by Sam Stoddart in 1920 for the Chicago International Exposition. But in two months time he was working daily before an audience of thirty-thousand people.

Shortly after this Flack was purchased by Senator Johnson N. Camden of Versailles, Kentucky. Senator Camden presented Flack to E. W. Cook, famous Scotch Shepherd in charge of the Hampshire flock on his estate.

Herding and cutting out sheep, that was Flack's work and joy. For he and his ancestors for centuries have been bred to do this work.

Can't you just see Flack out there in the field, standing at attention, waiting for Col. Cook to give the signal whistle that says, "Round up"?

The flock of forty ewes were grazing over a thirty-acre paddock widely scattered when Cook gave that long penetrating whistle and Flack was off. Running low to the ground he circled three times, and in three minutes, there was the round up, with Flack on guard, not a muscle moving. Neither did he make a sound for Flack never barks, but with swift vibrations of his sentient body he held them in absolute subjection until the next signal—a long slow lift of the shepherds crook and five whistles said "cut out five." Four minutes and Flack holds the five rigid in the open, just wavering his tail with something of a hypnotic movement. Then the lifted crook as before, said "Cut out two," and it was done. Not just any two, but the right two and then brought straight to the shepherds feet where the crook could reach and hold them.

Next the lowered crook and one whistle said "Cut out one". That looked easy, but when the master demanded that one be penned and held in an open gateway, well, Flack was equal to it. How he did it we don't know, before such ability mere human opinion stands abashed. But hold that excited, panting, vibrating ewe he did, while the camera did its work, and a bit longer while we stood in awed wonderment at such motionless mastery of will over will, for the ewe wanted to go, to jump stiff legged and bound away and join the flock across the clover field. She swayed, she lifted a foot, but that was all. Not one step did she, or dared she, make until, obeying the wave of the crook, Flack released his mastery and come to heel.

Flack has a strong character, for not even the choicest tidbit would tempt him to the courtesy of breaking bread with strangers. He only eats once a day, and that at the hand of his master at bedtime—the time when the click of a snaplink fastens into his heavy collar and he is tied up for the night.

Today Col. Cook lives at Clemson College as shepherd and Animal Husbandryman. He is giving his knowledge of sheep and animals to the state of South Carolina, and perhaps some of you saw his sheep dog demonstration during the Fort Hill Pageant a few years ago.

But there was a tear in Ted Cook’s eye as he told me this story, for Flack has left his master’s side to go where all good dogs go.

(*) Rewritten and condensed from; American Sheep Breeder, March, 1922.

"Home-Made Feeds From Home Grown Products"
"GREAT SMOKY BRAND"
Live Stock and Poultry Feeds
THE IODINE STATE FEED MILLS
Greenville, South Carolina
CUSTOM GRINDING — MIXING — MOLASSES PROCESSING
Come To South Carolina

When a person has something of value that he wishes to sell or share, he usually advertises. That is exactly what The Anderson Daily Mail did in their fortieth anniversary edition. In this case The Daily Mail offered the resources of South Carolina to the people of the United States.

In this edition The Daily Mail portrayed the glorious past, the many years of progress and the present high status of development of Anderson and of South Carolina. But in spite of the present extent of development, it was emphasized, the surface has only been scratched. There remains room and opportunity for a great deal to be done. Our vast untapped natural resources and our readily available human wealth offers opportunities unmatched except by those of our neighboring southern states.

In South Carolina, it was pointed out, we have mountains and a seashore, ideal for vacationists; a climate and population, pleasing to homemakers; and a new frontier of opportunity for the establishment of a business or an industry.

Not only The Daily Mail, but the people of South Carolina as well are behind this movement to inform the nation of the opportunity existing in our state. This is evidenced by the fact that such a voluminous edition, which totaled one-hundred and sixty pages, could not have been possible without the cooperation of the advertisers.

These advertisers represent the people of South Carolina: the businessmen, the farmers, and the industrialists. Thus The Daily Mail is a medium through which the opinions and policies of the citizens of South Carolina are expressed. The Agrarian is a medium through which the opinions and policies of the students of Clemson College are expressed. It is of no small consequence that we have the same enthusiasm and ideas as do the present leaders of our state. We are only too anxious to assume our position in South Carolina and to help make it a richer state than ever before.

We of The Agrarian wish to extend the invitation first extended by The Anderson Daily Mail: "Come to South Carolina." R. L. A.

H. A. Woodle, a graduate of the Agricultural Education class of ’23, is now County Agent of Aiken County.

D. A. Shelley, a graduate of the Animal Husbandry class of ’37, has recently been appointed County Agent of Abbeville County.

Where There Is A Will, There Is A Way

The fact that the South is criticized as the nation’s economic problem number one, agriculturally and otherwise, is generally accepted, but judging from the enthusiasm shown by the citizens at the recent farm machinery demonstration day at Clemson they are determined to overcome this handicap by keeping pace with all new developments and methods. We are in dire need of new methods, new developments and new industries here in the South, and the only way to acquire these is to first secure the interest and cooperation of the people. We sincerely hope that the interest taken in the farm machinery demonstration is typical of the entire South, for if it is and if the old saying “where there is a will there is a way” is true, then certainly the South is on the road to economic prosperity.

In this region so rich in natural and human wealth, agriculture is still the primary industry; so, naturally, we look first to agriculture when seeking a solution to our problems.

The farmers and farm leaders who attended the demonstration did so with their eyes and minds open to any suggestions rendered by the various farm machinery companies represented. These men took all the exhibits in, weighed the possibilities, and conceived new ideas on how to improve their own farms.

If the farmers were anxious to learn about the machines and their possibilities, then the companies were doubly anxious to serve. Any group of companies which are willing to exhibit between $50,000 and $75,000 worth of equipment free of charge may truly be said to be cooperating with the farmers. With this spirit of cooperation there are no agricultural problems which cannot be improved or overcome. R. L. A.

B. O. Williams was a graduate of the first Vocational Agricultural Education class at Clemson in 1918. He is now professor of Rural Sociology and Statistics, and is Rural Sociologist on the Agricultural Experiment Station Staff at Clemson. Dr. Williams received his M. S. degree at the University of Virginia in 1929 and his Ph.D. at the University of Minnesota in ’38.

F. D. Cochern, a graduate of the Horticulture class of ’32, is assistant Horticulturist at the Louisiana State University, University, Louisiana.
South Carolina’s Golden Weed

To the purchaser it is a package of cigarettes or cigars; to the botanist it is Nicotiana tabacum, but to the South Carolina grower it is the Golden Weed. Though not cultivated in the Piedmont, tobacco holds an important place in the economic system of our Pee Dee section.

Tobacco, unlike most of our important crop plants, is native to America. It was cultivated by the Indians at the time of the discovery of America. The use of tobacco soon became popular in Europe. As the chief export from the young colonies, it played an important role in colonial economics. Commercial tobacco production began in Virginia in 1612 and soon spread to neighboring states; however, it was not until 1890 that it became commercially important in South Carolina.

Aided by the boll weevil invasion with its consequent check of cotton production, tobacco made a steady increase in the Pee Dee area. Depression and crop control caused a decrease but the loss has now been overcome.

Tobacco ranks as the nation’s seventh most valuable crop with a farm value of nearly $250,000,000. In South Carolina this crop occupies only two per cent of the crop land; however, the returns from tobacco are high proportionally. Eight counties have as much as five per cent of crop land in tobacco. Horry county is highest with 25%.

Soil requirements for tobacco are unique. This explains its production in small, widely scattered areas. For example, Lancaster County, Pennsylvania is considered one area within itself.

Tobacco makes a rapid growth during a short season and requires readily available moisture, yet it is quite sensitive to poorly drained conditions. Phosphorous and potassium requirements are high so liberal fertilization is necessary. Nitrogen requirements are low, especially for the bright leaf type grown in this state. There are certain special correlations between tobacco quality and presence of certain nutrients. An excess of sulfur causes an undesirable red color. Chlorine above the small amount necessary has a burning effect. Deficiencies of copper, boron, manganese, iron and zinc have at times been noted on very light soils. A moderately acid soil proves best for tobacco so liming is unnecessary.

There was little work done by our experiment stations to improve tobacco until 1930 when cooperative experiments were begun by the U. S. D. A. and state workers at the Pee Dee Station at Florence. Important contributions, including new fertilizer mixtures, methods of fertilizer application, and cultural practices, have resulted in an improved quality of the product.

In 1932 blue mold, a new plant bed disease, caused great damage.

First attempts at control were ineffective, but recent experiments indicate that fumes from para-dichlorobenzene prove effective. Daily applications are made and the gas held on the plants at night by a heavy cover.

What does the future hold for our state’s tobacco farmer? A good proportion of our exports have been lost. There is little possibility moreover that increased domestic consumption will prevent a surplus as was the case when women began smoking, with the result that acreages much above the present levels will produce a surplus with a consequent drop in price.

Of growing concern to South Carolina farmers is the spread of producing areas in Georgia and Alabama. Will these areas offer serious competition and cause a westward shift in tobacco similar to that of cotton? We think not.

This bank extends congratulations and best wishes to the graduating class of ’39 and suggests that when you leave the campus and go out into the business world that you bear in mind these words by Rudyard Kipling:

“Any fool can waste, but it takes something of a man to save; and the more he saves the more of a man it makes him.”

The Jackson County Bank
Sylva, North Carolina
Member F. D. I. C.
SPRING'S REVELATION

T. E. GOODSON, '40

Ceres starts her work without.
The trees new leaves begin to sprout.
The warm wind sways the daffodils,
Then running, twirling, tops the hills.
She takes the lilac's sweet fresh breath,
And boasts to the world of her perfume theft.

Thrift, verbena, and tulips gay,
Run 'round and 'round in endless play.
Azaleas flash their colors bright
That richen and deepen in evening light.
The dogwood speckles the cloudless sky,
And hungry squirrels scamper by.

Spirea falls in white cascades.
The oaks begin to cast their shades.
The tracery of the flowering peach
Stretches high in yawning reach.
The ploughman turns the vital sod,
And I see nature, life, and God.

number 1900. In this way farmers of America are carrying over one half of their own fire insurance, at a tremendous saving. Mr. F. F. Hill, Governor of the Farm Credit Administration, recently made this concise statement:—“Marketing the products of the farm and the ranch, purchasing the necessary supplies to grow them, and obtaining the required credit to carry on farming operations, are all as much a part of the business of farming as producing crops or livestock. Singly, farmers today are in no position to bargain effectively with established groups in these fields.”

The public generally is sympathetic toward farmers cooperatives. This is evidenced by the fact that in every state, laws have been passed favoring the incorporation of farmers' cooperatives.

We believe the future of organized agriculture was never brighter. Our farm boys and girls are being trained to cooperate as never before in the history of our country through thousands of Four-H Clubs and F. F. A. Chapters. The farmer's best friend is the three horse team of education, cooperation and organization.

CALL FOR

ROYAL CROWN COLA

On Sale at the Jew Shop
and all other Clemson places where drinks are sold
NEHI BOTTLING CO.

Anderson, S. C. "Buck" Barton
The Progressive Farmer’s Holiday

By R. L. HEARON, ’40

On April 27, farmers from every part of the state trekked toward Clemson College, and upon arriving they were treated to a fine demonstration of the latest power units, tractors, tillers, and harvesters as has ever been put on in South Carolina. It was a colorful, noisy, festive, but attentive crowd that watched the machines roll up and down the fields turning up the fresh earth into ever changing patterns. This heterogeneous gathering of farmers, students, and professors were interested spectators at a show that had everything a successful show should have—color, precision, competition, and a gay festive atmosphere. There people saw the finished product and enjoyed and appreciated it. Could they have seen the preparations that were made before the demonstration they would have appreciated it even more.

It was a small group of agricultural students, composed mostly of Agricultural Engineers who got the biggest kick out of this show, for it was this group who had seen these machines before they were assembled. It was this group who had watched the conglomeration of iron, steel, and wood unloaded from the train and placed in a bewildering mass at the Farm Machinery Building. It was these boys who assisted the company representatives in sorting this chaos of parts into orderly piles, and then helped assemble these parts into rugged, smooth working implements. These boys worked hard and long; they followed complicated instructions, they sweated, they skinned their knuckles and swore softly, but when they had finished, they felt that they had done a hard job well. They had gained invaluable practical experience and insight into the workings of various machines, and could thus truly appreciate those machines which the crowd saw working so smoothly.

To the onlooker who viewed only the tractors and implements, it was an interesting day. To the spectator who saw not only these things, but who also saw the crowd, the day was doubly interesting. The red, green, orange, and yellow machines weaved up and down the fields leaving a trail of fresh, smelly earth behind them; the stench of hot oil and gas permeated the air; the shouting voices of gesticulating men contrasted sharply with the smooth, powerful explosions of the motors. The clashing and scraping of metal, all blended into one tremendous wave of noise from which it was impossible to escape. There was no slowing down of these machines during the day, no easing up on the strain which had been put on them, for there was too much good natured competition between the companies for any slackness or failures. These people were potential buyers and they had to be shown what these tractors and implements were capable of doing.

It was only when the sun began to sink into the purple haze in the west that the people began to trickle away. As the crowd diminished, so did the noise, and the hubbub became more and more subdued until finally there was no crowd nor any noise, only a handful of tired but satisfied boys and men who still had the job of moving these machines, but who were content that another Farm Machinery Day had gone over in a big way.

For Bigger, Better Quality Yields
USE

Armour’s
BIG CROP FERTILIZERS

Armour Fertilizer Works
Columbia, S. C.
MAKE PROFITS BY USING LIME
By JESSE M. BAKER, '40

The practice of applying lime to the soil for the purpose of increasing crop yields is not a new one, because records show that as early as 500 B.C. the Celts made use of chalk and marl for this purpose but only in recent years has the importance of this practice been realized. By repeated experiment and observation, soil reaction has been found to be one of the major factors affecting crop production on mineral soils, so this is the basis on which liming recommendations are made. As liming of the land is accepted as a fundamental and necessary practice by all who are well informed in the matter, it is essential that every one engaged in agriculture become familiar with some of the roles which lime plays in the soil.

One of the primary reasons for applying lime to the soil is to correct acidity. High acidity, especially in clay soils, is very likely to bring about toxic concentrations of iron and aluminum salts which could be tied up in the soil so as to be non-toxic if a suitable application of lime was made. It has also been found that an application of lime tends to increase the availability of phosphorus in the soil. As the activity of many soil micro-organisms which break down complex organic material to simple end products are greatly retarded by an acid reaction, it is imperative that lime be added in order to correct this condition so that more plant nutrients will become available. Lime also helps the physical condition of sandy soil by acting as a binding agent and tends to adjust the physical properties of clay soils toward a higher plane of production by increasing flocculation.

There are several kinds of lime commonly found on the market included under the term agricultural lime which is a term used to designate all compounds of calcium and magnesium employed in a practical way to correct soil acidity. Among the more common materials used for this purpose are ground limestone, hydrated lime, marl, burnt lime, and oyster shells. When such coarse material as oyster shell and marl are used as soil amendments, they should be ground fine enough that 60% will pass through a 100-mesh sieve. All of these materials have been found to give satisfactory results when applied in the right amounts so the local market prices and hauling charges from market to farm will be the major factors determining which type of lime to use.

Before liming recommendations can be accurately made, the pH of a soil must be known. This can be found out by the farmer sending his soil samples directly to the soil testing laboratory at Clemson College which service is done for him free of charge. After this is found out the farmer can refer to a liming chart which he can obtain from the extension department of Clemson College recommending the amounts of lime to apply to his soils based on the pH. As there is a greater danger in over liming some soils such as the grey soils of the coastal plains region care should be taken in applying this soil amendment. A good plan to follow is to visit your local experiment station and let them recommend the kinds and amounts of lime to apply to your soils.
T. F. Cooley, of the Dairy class of '38, left the South Carolina Extension Service April 15, 1939 for a new position as manager of the Klondike Farms, a famous Guernsey Breeding Establishment at Alkin, North Carolina. Mr. Cooley has been associate dairy specialist with the South Carolina Extension Service. Prior to that time he was assistant county agent at Newberry.

F. M. Gray, a graduate of the Dairy class of '34, has recently been made manager of the Southern Dairy plant at Miami, Florida. Mr. Gray had been in charge of the seal test laboratory in Miami for several years.

George H. Wyse, a graduate of the Dairy class of '30, is associate Dairyman on the experiment station staff at Clemson. Mr. Wyse received his M. S. and Ph. D. degree at the University of Minnesota.

J. E. McCurry received his B. S. degree in Entomology with the class of '38. He took graduate work immediately after graduation at the University of Florida. Mr. McCurry is now back at Clemson as assistant in Dairying, and is in charge of advanced register testing.

**From A Snack To A Banquet**

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ALL PRICES F. O. B. SALLEY, SOUTH CAROLINA
A Successful Poultry Farmer

By HARRIS L. BEACH, '39

What is the future for vocational agricultural education? Is it accomplishing anything that tends to establish our rural youth as farmers on a permanent basis? Well, let’s look at the results one agricultural teacher got from one of his students and then I’ll let you draw your own conclusions.

In 1922 Professor C. L. Barnette, agricultural teacher at Iva High School began working with his boys on the possibilities of starting their school projects. Some boys decided upon livestock projects while others stuck to crop projects. One freshman, T. C. Gray, chose chickens as his enterprise. He did not have very much assistance financially, but “Where there’s a will there’s a way.” During the same time he was living in a community atmosphere where most of the poultry flocks consisted of mongrel chickens, so under these adverse conditions young Gray set out with a world of ambition and energy but at the same time with very little capital.

With ten hens and one rooster of the Tom Bar- ron strain and a house 8 feet square young Gray began his colorful career in the poultry business. Under careful supervision of the agriculture teacher small profits were received from these first few hens, so this energetic young boy decided to increase his flock paying careful attention to the selection of only the best birds for breeding purposes. When 1926 came along young Gray was deeply absorbed in the poultry business with possibilities of expansion. His flock now consisted of 800 layers of new blood lines. At the same time he was continuing to pay close attention to culling, breeding, and record keeping.

Besides from being systematically enrolled in vocational agriculture, young Gray was a Four-H club member. From Four-H club work, under the supervision of the county agent, he received valuable aid in poultry management and at the same time had a chance to participate in judging contests, thereby gaining useful knowledge as to the selection of breeding stock and good layers. At this point he was on the verge of graduation and it was necessary for him to decide upon what he was going to do—go off to college or start in the poultry business on a commercial scale. Due to his huge success with poultry and the unlimited possibilities for expansion he turned to the poultry business as a life’s work.

As time passed on new blood lines were introduced into the flock through the main medium of high record males, along with the continuation of careful culling and record keeping. Besides improving the flock much building was taking place. Laying, brooding, feed, and storage houses were under construc-

A part of Mr. Gray’s flock of Leghorns
The hen houses in the background

truction. Young Gray had now increased his poultry business to the extent of 1500 birds and had purchased a 7,200 egg capacity incubator. He continued to expand his business and was now enjoying a large sale of young chicks. All Southern states patronized The Iva Hatchery and it was necessary to increase his hatchery business to 20,000 capacity. With the large demand for baby chicks, Mr. Gray paid more attention to his breeders than ever before, because he had stiven to get satisfied customers and he felt it his duty to keep them.

At the beginning, young Gray started out on his father’s farm but gradually drifted to another farm so that his business would have room to expand. Today, he has one of the largest and best equipped hatcheries in the South. His mailing list, covering the entire south, is made up of approximately 5,000 names. His poultry plant is composed of 42 buildings of the latest design and contains the most modern fixtures. A farm of 140 acres takes care of all breeding and experimental work Mr. Gray cares to carry on in further perfecting his poultry business.

From these facts, it seems that it is quite obvious that Vocational Agriculture and Four-H Club work have passed the stages of experimentation and are now essential in every rural area. From ten hens and one rooster to one of the largest and best equipped hatcheries in the South is concrete evidence that our rural youth still have a chance to make a go agriculturally providing that they are energetic and have the proper supervision, so “Hats Off” to Mr. T. C. Gray of Iva, South Carolina, who has made a great success and has set an example worth following by any rural youth.
How Cheese Came To Be

...the invention of cheeses and cheese culture is very old; early dairy husbandry was very crude and laborious but its study is interesting.

HERBERT A. JOHNSON, '40

We have learned from the most recent archaeological discoveries that cheese was made and used two thousand years before Christ. Sanskrit writings dating back to six thousand B.C. tell of the food values of milk much as we know them today. We are sure that the dairy industry was of some importance in these olden days because friezes (carvings) of oxen, maids milking cows, and even calves have been found in old Egyptian and Asiatic rocks. This was hard work and required skillful hands to do it. It is therefore, reasonable to conclude that the cow was even then "the foster mother of the world."

Branding to distinguish one man's herd from another was used as early as 4000 B.C. Many races of people used the cow. For example, the famous Vedic hymn of India mentions the cow as the benefactor of the Hindu race. These people drank the milk and ate the butter.

Today we study milk very intensively for all of its physical and chemical properties but Aristotle wrote many things concerning cattle and the chemical composition of milk. From the earliest data we learn that the principal users of butter, cheese, and milk were the herdsmen themselves. This included nearly everybody because almost every family had a herd of cattle which was tended by the father or the sons of the family.

The first mention in the Bible of a dairy product is in Genesis and reads as follows:

"And they took butter and they did eat." In Judges the author mentions milk and butter when praising Jael the wife of a Kenite. Butter must have been considered a luxury for he says:

"He asked water and she gave his milk; she brought forth butter in a lordly dish."

The texture and quality of butter was noticed then just as much, probably, as it is today. In Psalms, David says:

"The words of his mouth were smooth as butter but war was in his heart." Some may question it, but Isaiah was truly a great prophet. He even said that some day cows and goats would give forth great quantities of milk. "And it shall come to pass for the abundance of milk that they shall give he shall eat butter; and butter and honey shall everyone eat that is left in the land."

The history of the word butter is in itself interesting. Scholars of history believe that the butter as translated from the Hebrew is slightly misleading. Butter as referred to in these early narratives is thought to have been some curdled or rich cheese-like material. The Greeks and Romans made a peculiar use of butter, one of our most coveted foods. They used it as an ointment. It was practically the only medicine they knew. The Good Samaritan used butter along with the wine when he bound up the poor wounded man on the road to Jericho. The word butter as we know it today is thought to have gone through a long line of translations. First, it came from the Latin derivative, "butyrum." Then it went into the Greek "boutrun," which came from a combination of two Greek words, "bous" meaning cow and "tyros" meaning cheese. The word dairy comes from the middle-English word which means maid-servant. This proves that most of the milking must have been done by the girls and women.

After Christ, in the year 376, we have a record by the historian Gibbons that Tartars carried cattle into their campaigns to be used for the milk and meat they would provide. Caesar took herds with him in his conquests and invasions. Attributed to him is the honor of having disseminated the herds of cattle over the continent of Europe. At this time and also in the days of Jacob, cattle were classified along with slaves as a measure of wealth.

In the fourteenth century gunpowder was discovered. This discovery was very important in the beginning of the domestication of cattle on a very large scale. Because all of the wild meat was killed, men soon came to realize that it would be necessary for them to keep some cattle for the milk they produced as well as the meat which they would give their owners in the form of young calves.

For the first few years after landing in America, the Pilgrims did not have any cows. It was, however, necessary to import them. Until the importation of cattle from the Old World into this country, the people were fast diminishing in their supply of the energies which man can get only from the cow and her products. Many of the failures of the Pilgrims in their first years of colonization have been attributed to the lack of domesticated cattle.

A large store of cheese was also considered as a form of wealth. Reliable information as to the real origin of cheese is not available but we know that cheese history dates back to the folklore of all the peoples of the world. We know that mankind knew
of and was using cheese before ever the English tongue was spoken. Cheese was offered to the Greek gods in the time of Homer. Otesia, an early Greek scholar wrote of a famous Assyrian queen who at one period of her life was fed by birds which stole cheese from the shepherds. Cheese even recently has been found in the palaces of long since forgotten kings and the preserved remains of the feasts of Roman emperors. When the Crusaders were on their march they took cheese as a prize booty. For many years after some wandering Asiatic tribes brought the art of cheese-making to Europe it was considered a very valuable process and protected by the arm of the church. The monks taught the peasants the art. The formulae for the making of cheese were considered as the wealth of the monasteries. Some of our best cheeses even today are made in monasteries. For example, the Port du Salute, a famous soft cheese is made by Trappist monks.

The handed down story of the first true cheese is rather interesting. One day an Arabian merchant who traveled in Asia was preparing for his journey and he filled his canteen with milk. When he stopped to eat his meal he turned the canteen up to his lips to drink but nothing ran out. The rennin had curdled the milk. After succeeding in getting it out of the container he tasted it and found that it was pleasing to his tongue. He experimented and pressed curd. His little accident proved profitable because cheese soon became the means of exchange and barter.

Roquefort cheese boasts an humble origin. It was founded in the Conques monastery in 1070 and made from sheep's milk. The legend of the shepherd boy seems to be the accepted history of the discovery of the moulding process. This little shepherd placed his lunch consisting of some bread and sheep's milk in a small cave while tending his herd. He did not return to eat his food but when passing the same way later he stopped to see if his forgotten lunch was still there. He found that the bread was all covered with mold and the cheese likewise. He broke open the cheese and found little green streaks of mold running through it. Being of a daring nature, he tasted the moldy cheese and liked it. He soon made a habit of leaving his lunch in the cave so that he might eat of the delicious delicacy. It has since been found that nowhere in the world can Roquefort cheese be made like that produced in the Cambalva caves in the foothills of the Alps where this little shepherd boy first discovered the process for that world famous cheese.

J. Willard Jones, a graduate of the Agronomy class of '37, is instructor in Agronomy at Clemson. He secured his M. S. degree at Cornell University in '38.

Our South Carolina Forests
By J. J. Pitts, '41

SOUTH Carolina's forests are one of its greatest natural resources. As a basic source of wealth and employment in the state, forests are exceeded only by agriculture and the textile industry. In addition to being a direct source of farm income, forests are indispensable in controlling floods, reducing soil erosion, conserving water resources, and in providing opportunity for public recreation and wild life preservation. Of the nineteen and one half million acres in South Carolina, nearly half is in farm woodland areas. Through a broad program of woodland management including protection from fire, thinning for fuelwood, tobacco wood, pulpwood, and cutting mature stands through individual tree selection, it is possible to earn an annual income of two dollars per acre from this timberland as compared to the forty-seven cents per acre as shown in 1935 census.

Farmers can no longer afford to sell their timber for a "lump sum" as they have frequently done in the past. The best method is to sell on the log scale or lumber scale basis. Last year, as an example, a Laurens County farmer was offered a lump sum of $75.00 for a small section of trees, but instead of selling for this, he divided his logs by international rule and received $193.50 for them. When selling by a sawmill contract, a person should reserve all pine trees up to and including ten inches in diameter at breast height, and all hardwood trees up to and including sixteen inches in diameter at breast height, with the exception of smaller trees which should be cut for improvement purposes. By so doing he will be retaining a thrifty growing stock of trees large enough to produce another profitable cutting within the next ten years. They will also help keep up the openings created by the cutting of the saw timber. A buyer cannot afford to pay much for small saw timber trees as there is approximately eight times more profit per thousand board feet in lumber cut from a 24-inch log than from a 12-inch log.

Young stands of pines are frequently in need of thinning. Thinned stands often produce sawtimber or poles in less than one half the time required by unthinned timber. In thinning, the classes of trees to be removed are crooked, forked, defective, rough, or of a low grade variety, which, when thinned, can be used for fence posts, fire or pulpwood.

In older crops of trees the farmer should investigate the possibilities of selling more than one class of product. The best quality tree should be marked for pole sale while cordwood may be worked up from the inferior trees and as a by-product of

(Continued on page 33)
HYBRID CORN
R. C. WANNAMAKER, '40

MODERN corn breeders practice one of two breeding methods—(1) Mass selection or (2) selection within inbred strains for the production of hybrid corn. The development of hybridization of inbred strains is probably the greatest advance in corn breeding in its nearly 450 years of cultivation by white men.

Probably the easiest way to give a general idea of what is meant by hybrid corn is to compare it to the mule. A corn hybrid is a “botanical mule”. The animal mule is the first generation hybrid offspring from the mare and the ass; the botanical “mule” (corn hybrid) is the first generation hybrid between two different inbred strains of corn. They both partake of the qualities of both of their parents. Neither of the hybrids just mentioned is used for further breeding, but must be produced anew each generation. The corn hybrid’s value lies, then, in its capacity to produce a superior (in quality, quantity, resistance,) crop of corn. The harvest from hybrid corn seed will grow if planted, but there will be a great decrease in production in the immediate crop and in succeeding generations if attempted.

Practically all of the work with hybrid corn has been done in the mid-western states—the Corn Belt. Some of the state agricultural experiment stations have produced hybrid seed, and every station has been impressed with the difficulty of convincing growers that seed should not be saved from hybrid plants for future planting. Practically every farmer attempts to repeat his super-yield by planting some of the seed from his hybrid crop, and learns by experience that the warning of the station directors was right. He gets a crop of low-producing, stunted plants which do not exhibit the vigor of the first generation hybrids.

Method Used to Develop Hybrid Corn

A general summary of the procedure followed by breeders of hybrid corn is this: First, select several varieties of corn which have desirable characteristics. By controlling pollination—self-pollinating each plant and repeating this process for six or seven generations (and by continuous selection), a number of very pure lines are obtained. All of this inbreeding must be done by skilled hands, with excellent technique in controlling pollination, and on a farm especially equipped for specialization in plant breeding work. After the seventh generation of inbreeding—using pollen from a plant to pollinate itself, and excluding absolutely all foreign pollen—nearly all of the “foreign” traits have been eliminated, but the weaker characteristics of the original strain have been emphasized resulting in less vigorous plants that are very uniform in the major characteristics. Then, two of these pure strains are planted together and cross-pollinated. This crossing of the two pure strains stimulates exceptional “vim and vitality”, so to speak, in the seed they produce. These are the hybrid corn seed to be planted by the farmer.

Geneticists have not yet been able to detect the exact factor (or combination of factors) which is responsible for hybrid vigor, but the fact that the hybrid seed do produce a superior crop is readily observed. When hybrid seed are used, an increase in yield over the standard commercial varieties of 15-35 per cent may reasonably be expected. In addition to this increase in yield, the plants may have greater disease resistance, wind resistance, and in general are more vigorous and hardy in every way than in ordinary strains.

The hybrids developed up to the present represent only first efforts in the breeding of this type of corn. Most of the breeding programs are so young that, as yet, there has been insufficient time to build up and improve existing inbred lines by combining the desirable characteristics of two or more lines into a single line. There is considerable concentration of effort on this phase of the breeding problem at the present time, and present hybrids, unquestionably, will be surpassed by hybrids of the future—in yield, resistance to disease, and in many other respects.

The production of hybrid seed corn in the southern states is in an early stage of development, and further time and work is necessary before we can have hybrid corn used extensively. Northern hybrid corn has not, in general, proven satisfactory in South Carolina and other southern states. There is every reason to believe, however, that greater progress will be made in corn improvement in the next 25 years than has been made since the crop came into the possession of the white man over four centuries ago.

For Summer Holidays See—

HOKE SLOAN
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Sport Shoes, Palm Beach Tuxedos, Sport Shirts, and Gabardine Slacks
R. O. T. C. Men Use Your Credit
Agrarian Philosophy

By HARRIS L. BEACH, Editor-in-Chief

THE AGRARIAN

Tri-State Intercollegiate Conference

The Tri-State Intercollegiate Conference comprised of former Four-H clubbers from South Carolina, Georgia, and North Carolina, held one of its most successful sessions at Camp Long, April 28, 29, and 30. All members are former Four-H clubbers and much interest was centered around past experiences both in demonstrations and educational activities.

In an atmosphere of club work and with the theme "Four-H Club Work and Rural Life Development" many outstanding contributions for the betterment of rural areas were accomplished. The purposes were: To provide social opportunity; To better understand the significance of college Four-H clubs; To maintain interest in the extension service and further develop its program; To provide further opportunity for leadership development; and lastly, To better understand problems confronting rural college students.

The session was climaxxed with a very impressive address by Mr. C. A. Sheffield, Southern Director of Extension Work, who painted a very dreary picture of the South. He listed our assets as follows:

"We have one-half of the land in the South along with many natural resources which include water power, marble, phosphate rock, naval stores, and many more. We have huge cotton fields and brag about our population being over ninety per cent native born." These are indeed assets which any part of the country should be proud of but at the same time he described the liabilities of the South which will make any true Southerner's blood curdle.

"We are confronted with poor, eroded soil. We have a low wage scale and have to tolerate high freight rates. Our illiteracy is one of the highest in the country. We have 28½ of the nations' population but receive only 9% of the nation's income. Our farmers pay 60½ of the entire fertilizer bill. Out natural resources are diminishing and over 48,000 families are slipping into farm tenancy."

Along with the educational part of the Tri-State Intercollegiate Conference much interest was centered around the needs for more social activities in rural areas. One cannot blame our rural boys and girls for leaving their country homes if the social side of their education is being neglected, so in order for our rural communities to hold their youth it is necessary and at the same time their duty to make the environment suitable for their normal development.

Grange Work Makes a Great Stride

The Grange, national agricultural fraternity, under the able leadership of national master Louis J. Taber of Columbus, Ohio, is taking the lead in agricultural affairs. Through its representative in Washington and its extensive Grange program it is exerting its energies toward a worthy and far-reaching agricultural program with an ultimate goal of elevating the American farmer.

The Grange, the order of Patrons of Husbandry, boasts of a five point program, namely: Fraternal—Being the only rural fraternity in the world it has the fraternal tie that binds. This alone is one reason why the Grange has continued to enjoy a vigorous life through countless years of prosperity and failure of which the farmer remembers well. Cooperative—This is the selling point of the Grange. Annually, thousands of dollars are saved by cooperative buying and selling. Educational—Every meeting is intended to be educational as well as inspirational to its members. Not only this, but the Grange sponsors numerous educational contests and projects which have proven beneficial in the past. Legislative—The Grange employs a man to represent its members in congress. This agricultural statesman is highly respected in all Washington agricultural circles. And lastly, Social—The Grange provides its members with healthy amusement, wholesome recreation, and countless opportunities for advancement. This is very essential and is proven by the ancient adage "All work and no play makes Jack a dull boy."

Today, the Grange boasts of a membership of approximately 800,000 paid-up members. It is organized in thirty-five states and comprises over 8,000 local units which hold more than 200,000 meetings every twelve months. These 8,000 local units are housed in 3,600 Grange halls valued at $26,000,000. Aside from all of this, the Grange is a democratic order as well as patriotic order. Another unique characteristic or earmark of the Grange is that its membership comprises the whole family—Father, Mother, Sister, and Son.

It is quite obvious that the Grange has been a pioneer in the development of America agriculturally and with its sound organization and under its capable leadership it would be a good bet to wager that the Grange will blaze many more agricultural trails in an effort to elevate the American farmer through the main medium of organization.
Scholarship Opportunity
For Farm Boys

Boys financially hard pressed but wishing to attend Clemson, here's something to investigate.

The Sears-Roebuck Agricultural Foundation has made available to the School of Agriculture of Clemson College twenty-two scholarships of $100.00 each to aid deserving farm boys of South Carolina who have completed their high school work and meet other scholastic requirements to enter the freshman class for the session 1939-'40. The funds are to be available in equal installments at the beginning of each semester, but in order to be eligible to receive the second semester payment, a student must make a satisfactory scholastic record during the first semester. These scholarships are to be awarded through competitive examinations to be held at some central point in each of the congressional districts of the state.

To be eligible to compete for these scholarships, the boys must meet with the following requirements:

1. Contestants must be farm boys who have shown interest and achievement in agriculture through successful pursuit of projects in 4-H or F. F. A. Club work.

2. Their high school record must place them in the upper one-third of their graduating class.

3. They must be deserving and require financial assistance to attend college. Evidence as to moral character and personality will also be considered in accepting contestants for the examination.

Since the total expenses for a year at Clemson are approximately $400.00, those competing for these scholarships must plan to meet the additional expenses required for completing a year's work.

Applications for admission must be filed on or before June the twentieth, 1939 as the district examinations will be held on July the twentieth. Candidates who meet the requirements for admission to the examination will be issued a card which must be presented at the time of the examination. The exact place and hour for the examination will be announced at the time the admission cards are issued.

Application blanks can be secured by addressing W. B. Aull as Chairman of the Scholarship Fund Committee, School of Agriculture, Clemson, South Carolina.
Clemson's Meats Laboratory

J. M. LAPHAM, '39

In the basement of one wing of the Long Agricultural Hall is the new meats laboratory of Clemson College which is designed for giving instruction to those students who are interested in the most up-to-date methods of killing farm animals and the cutting and curing of meats. The plant consists of a large killing room, two spacious chilling rooms, a freezing room, a meat-cutting demonstration room, and a sales room.

The killing room is equipped with a large scalding vat, with hot and cold water, scraping tables, meat cutting tables, automatic scales, and overhead tracks to convey the carcasses to different parts of the room and finally to the coolers or chilling rooms.

The coolers may be regulated at different temperatures suitable for the chilling of carcasses and the curing of meats. The freezing room is useful for preserving meats which have to be held over for a considerable length of time. The demonstration room is equipped with chairs where groups may be seated while demonstrations are in progress.

One of the finest things about the meats courses is that they do not stop with the demonstration. The students have a chance to put into practice what they learn as they actually do the killing, cutting, and curing. And, after this is done, they all the meat to the local trade. The sales room is equipped with cutting tables, scales, and a large refrigerator which is of the show-case type. In this show-case the cuts of meats, sausage, etc., are displayed in an attractive way so that the customer may make his own selection.

The meats work is taught by Prof. R. R. Ritchie who has recently taken special training at the Iowa Agricultural College. The course is one of the most practical and popular courses at Clemson.

The meats laboratory does not serve the student body alone. Just recently an extension school was held at Clemson where the county agricultural agents and the assistant agents were given training. In this school instruction was given by K. F. Warner of the U. S. Department of Agriculture, Prof. Ritchie of Clemson College, and J. R. Hawkins, extension livestock specialist for South Carolina.

As the livestock industry continues to increase in South Carolina and the farmers line up with the “live-at-home” program, the fundamentals of butchering, meat cutting and curing will be of even greater importance than they are at the present time.

It is with pride that we call attention to this particular line of training which is helping Clemson students to equip themselves for their future work.
AGRARIAN PERSONALITIES

H. M. Covington—


H. K. Herlong—


T. B. Ardis—

THE AGRARIAN

THE AGRICULTURAL SOCIETY OF SOUTH CAROLINA

(Continued from page 3)

Society is interesting: “1825—John Mullowney, Esq. U. S. Consul at Tangier, Morocco sent many varieties of seed produced in that country for distribution to members of the Agricultural Society for which he made no charge and expects no reimbursements—but should the Agricultural Society of South Carolina wish to pay him a compliment they might forward him the below mentioned articles which would be rarities in Tangiers: 2 Venison Hams, 1 Pork Ham, The Smallest amount in cheese to show in opposition to English, a small quantity of Rice, A few Canteloupe and Watermelon Seed, A small quantity of Peach Brandy, which is not known in Tangiers.”

We find in the minutes that in 1829 Thomas Jefferson addressed the Society on “The Cultivation of Olives and the Manufacture of Olive Oil.” The orator for 1829 was Charles Cotesworth Pinckney, the subject of his address being a defense of the humanity of slavery as it existed in the South. The South Carolina novelist, poet and historian, William Gilmore Simms, addressed the Society on March 3rd, 1870, on “The Sense of the Beautiful.” At the anniversary dinner of 1878, Dr. A. B. Rose, the President, closed his remarks with this toast: “The State of South Carolina: May her sons hereafter make their own bread, eat their own meal, wear their own home-made clothes, stand in their own shoes and marry her own daughters.”

Experimental Work

When the society was founded it was evidently intended to establish a farm for agricultural experiments. In 1896 the Society netted a profit of $3,451 by issuing a lottery for payment on their farm on Charleston Neck and erecting thereon certain necessary buildings, their intention being “to carry out experiments conducive to agriculture, horticulture and botany.” (Lotteries were considered proper at this time.)

All through the early history of the Society are hints as to the establishment of an experiment station. Apparently these early plans were not carried out. In 1902 a small scale experimental station for low country products was established and made experiments with clover, field peas, millet, alfalfa and other crops.

At the Anniversary Meeting in 1906 the Agricultural Committee reported that they had been earnestly following up this project and that the Southern Railway would give to the Society 200 acres near Summerville. The tract was carefully examined, but the Clemson authorities declined to receive it on account of the cost of drainage. The committee thought the necessity of drainage a good feature knowing that this would show what could be done with a piece of land typical of vast areas of the low country. Leaders in the Society succeeded in getting the experimental farm established.

At the 1908 meeting the committee reported that the land had been accepted and that The Drainland Experimental Station, as it was called, was being operated under the direction of Clemson College. Since then it has been added to so that it now consists of 400 acres. For a number of years the Society met there annually with the Board of Clemson College where agricultural addresses were made and the Society served dinner.

The Society supported the establishment of the James Island Experimental Station, one member offering as much of his land as would be needed to experiment with sea island cotton. The Society has always been on the alert as to the benefits resulting from experimenting in various lines of agriculture some members having started experimenting with vineyards and wine making as early as 1798.

Prizes and premiums have been offered by the Society for the production of high yields in a number of crops including corn, hay and tomatoes as well as livestock. There is a cup in Washington, D. C., presented to George Washington in 1785 by the Society for raising the largest jackass.

Upon developing florals fairs and industrial exhibitions, the members decided that a society hall was a necessity. The money was raised by issuing bonds and by donations and the hall was erected on Meeting Street. Following the earthquake in 1886, the hall was used as a city hospital for more than a year. When the Industrial Exhibitions were discontinued in 1888, the hall was rented for an opera house and was so used until January 1, 1894, when it was entirely destroyed by fire.

Besides the innumerable projects by which the Society has helped agriculture, it has been active in promoting many municipal projects not directly related to agriculture. The Society has always been interested in “Good Roads” and “Drainage” and therefore closely associated with the Sanitary & Drainage Commission of Charleston. A former president of the Society was also chairman of the Sanitary Drainage Commission and did much to bring about a highway system that covers Charleston County and the State. The Society succeeded in getting legislation passed which was very helpful...
The Agricultural Society of South Carolina

(Continued from page 30)

to the fish and oyster industry. Members of the Society have been asked to attend important conferences as delegates in discussing government programs for agriculture and land settlement.

Among the Society's many benevolent projects is an annual four year scholarship to Clemson College awarded to the most deserving boy from Charleston County desiring to study agriculture.

Rotherwood Farm

(Continued from page 4)

out of Bowlina's Pet 742278, has twelve daughters averaging 63.19 lbs. butterfat; 12,075 lbs. milk; ave. 5.27 per cent.

The herd is exhibited at four major Tennessee shows each year and occasionally at other large state fairs.

The barn, modern in all respects, is brightly decorated with prize ribbons and medals won by the herd. Over the door is the slogan “EACH COW PAYS HER WAY,” which is indicative of the high ideals of the breeder.

The milk from the herd is made available to the citizens of Kingsport as grade A Raw through the cooperation of a local distributor.

Mr. George A. LaFever, who has been in direct contact with Jersey cattle since he was fifteen, was selected by the owner to take complete charge of the herd and develop it along the lines of true type. A graduate of Massachusetts Agricultural College at Amherst, he is a man who studies cattle carefully and strives to go forward, making each generation just a little better by following scientific practices as they are presented in behalf of herd advancement. His success is attributed largely to the adage—“Honesty is the best policy.” With untiring hands, Mr. LaFever works with the herd as if it were his own.

In the interest of better Jerseys, Mr. LaFever attends all of the meetings and cattle shows which it is possible for him to attend. He is considered one of the best judges in the American Jersey Cattle Club and is rated by the leading dairymen as one of the top three Jersey Herdsmen in the United States. Under the supervision of Mr. LaFever the herd won the Constructive Breeders Registry award for a second time, which is indeed a rare distinction. The plan of the manager and the owner of the herd is to advance the high standards of the herd; in doing so they keep the animals on test at all times.

No account of the Rotherwood Farm is complete without a tribute to Mrs. LaFever, wife of the manager. Besides carrying on the duties of the household, she assists her husband in his office and acts as a hostess to all visitors to the dairy. She willingly assists in giving information concerning the herd to anyone who might visit the dairy. In the LaFever home there is a cordial welcome to all visitors and an assurance of most delightful entertainment.

THE AGRARIAN

Thirty-One
Matching Industry's Progress
(Continued from page 7)

the structure of these new political subdivisions the rights of the states, the freedom of individual action, and the processes of democracy are preserved.

Such an organization provides the machinery whereby our State Colleges, Experiment Stations, Extension Services, the U. S. Department of Agriculture and other agencies can make available to large groups of farmers, with an efficiency comparable to industry's mass production methods, the latest developments in agricultural knowledge. Specialists in every field of agriculture, working together toward the broad objectives outlined in the district program and following detailed methods set up by local supervisors in the district work plan, are available to provide technical assistance to farmers in organized districts.

The farmer himself, who has been at a disadvantage as an individual buying from and selling to organized groups, can through cooperative action obtain the benefits of wholesale operation. We are only beginning to visualize the possibilities of cooperative action in the purchase of farm materials, development of markets for farm products, production of planting stock and seed, development of recreational facilities, and other opportunities for community achievement.

In the district organization, it seems to me, we have the framework for remodelling agriculture to meet the complex requirements of modern civilization. We have only to look about us at the land to visualize the difficulties of our task. But it is not too late to realize the great natural advantage of this Southern Piedmont Region and to build an agricultural structure to match the sturdy edifice of industry.

I consider this a challenge as great as that which faced our forefathers in an unbroken wilderness. They had their eyes focused on building a nation and they did well the job of pioneers. We cannot blame them greatly if they failed to see the destruction they wrought to the land. But we can read the future in our streams. We can see the warning in our gullied hillsides. And future generations will not hold us blameless if we fail to meet the new challenge of a modern age.

A CORRECTION

We wish to acknowledge here the mistake we made in the last issue of giving Dr. B. O. Williams as the author of the article, "Farm Tenancy." Dr. G. H. Aull was the author. We offer our apologies.

COMPLIMENTS OF THE
DAIRY DEPARTMENT
CLEMSON COLLEGE

Clemson College Road-Side Market
Open April 15th to December 15th
We sell 115 varieties of peaches, 75 varieties of apples, and many varieties of grapes, plums, cherries, raspberries, dewberries, pecans, etc. Many of these varieties have better appearance and quality than the varieties usually grown in home or commercial orchards. Try some of these delicious fruits next season.

The Horticultural Department, C. A. C.

Bodiford's Dry Cleaners
Phone 78W
H. O. BODIFORD, Owner
Clemson, S. C.
The Soil Acidity Problem in South Carolina
(Continued from page 8)

the saw timber. Often much valuable wood is left to stated: "It is recognized that South Carolina can no longer depend solely upon cotton and tobacco as the foundation on which to build a strong and permanent civilization. A more diversified system of agriculture is needed, including a wide variety of high grade feed crops necessary in the successful production of farm animals."

We have lagged behind in South Carolina in the production of grass and hay crops, which is in turn responsible for the lag in livestock production. It is for this reason that we have concentrated our attention on such row crops as cotton, tobacco and corn, which permit serious soil erosion. Since these crops put nothing back into the soil, we therefore use heavily of fertilizer. This excessive use of fertilizer is responsible for the very high acid condition of the soil. Now if we will use lime to correct this acidity, we can begin to grow more soil conserving and soil building crops, and thus construct a foundation to support a livestock program necessary for a live-at-home program.

Now, it so happens that lime is cheap and one application lasts for several years. There is no reason, then, why the farmers of South Carolina and of the South cannot go ahead with this program of liming the soil, not only for their immediate benefit but for the benefit of posterity as well.

The whole situation can be compared to a simple case of acid indigestion. In such a case the person suffering takes a dose of soda, which has the same effect in neutralizing acid as does lime, and thus clears up the trouble. With such a simple remedy possible and with such wonderful results, South Carolina farmers should make every effort to cooperate with Dr. Cooper in making the correction of this problem realized.

South Carolina farmers, lets rid our state of the one crop system; lets cure our soils of acid indigestion.

Our South Carolina Forests
(Continued from page 24)

rot after a sawmill has been through a forest and a great quantity of cord wood for sale and for home use can be cut out of the tops and limbs of this debris.

Reforestation will soon become widespread in South Carolina since farmers are beginning to see the importance of forests as a profitable crop. They will put all easily gullied land and land that is not fit to grow field crops in trees and thus learn how to operate a woodland for profit.

THE SOUTH CAROLINA NATIONAL BANK

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.. .. Before We Go .. ..

The year is gone and we, the executive staff and departmental editors, are happy to say that we had the pleasure of inaugurating \textsc{The Agrarian} as the official student publication of the school of agriculture and the department of agricultural education. At this time, in behalf of the staff, I would like to make certain acknowledgments "Before We Go."

It is with great pleasure that we look back on our association with the advisory board composed of Dr. B. O. Williams, Dean W. H. Washington, and Professor B. E. Goodale. It was their job to supervise the work of the magazine both the business and editorial ends. They worked hard in order to keep \textsc{The Agrarian} running on a business basis and keeping its standards high as was outlined by the faculty at the beginning of the year. They were always ready to contribute to its make-up and at the same time make constructive criticism. From these contributions it is quite obvious that the advisory board was one of the main reasons why \textsc{The Agrarian} made the progress that it did.

To our advertisers—They were a loyal group who gave us financial assistance. Without them it would have been impossible to have presented \textsc{The Agrarian} as it is financed solely by advertisements. So to this set of "Backers" it is with deep appreciation that we thank you for your support and sincerely hope that your advertising with us has proven to be a financial asset.

At the beginning we decided to establish \textsc{The Agrarian} on a firm foundation, so we needed someone to keep our records and supervise the business end of the magazine. With this in mind we contacted Mr. J. C. Littlejohn, College Business Manager, who kindly consented to handle \textsc{The Agrarian}'s business. With an efficient staff and his valuable aid both financially and advisory we disposed of the business in a business-like manner.

Next, we would like to pay tribute to \textsc{Tiger} and \textsc{Taps}, newspaper and annual of the college. From these organizations much material was loaned to \textsc{The Agrarian}. \textsc{Tiger} was always ready to give the magazine any publicity that would help to advertise it. This was indeed a help because a new publication as \textsc{The Agrarian} was at that time needed some advertising and \textsc{Tiger} was a very good medium, so with deep respect to these two fine publications we are happy to say that they had a part in the making.

Another group which we wish to thank is our printers. The majority of the staff were new in the magazine business so naturally many mistakes would have been made if it were not for our printers aiding us in the arrangement and make-up. We are happy to say that our association with the printers has been a pleasant one and we sincerely hope that we will have the pleasure of working with them again.

And lastly, we come to the junior staff. It is with much appreciation that we commend you for the first time. You worked hard in an effort to prepare yourselves for the task that you are about to set out upon. We feel sure that with the knowledge gained by our mistakes and after a year's apprenticeship you will continue \textsc{The Agrarian} gradually increasing its size and quality. Now with these acknowledgments the retiring staff steps aside leaving it to the incoming staff to "Carry-on."

\textbf{HARRIS L. BEACH}

Retiring Editor

\textit{Slaves}

\textsc{T. E. Goodson, '40}

Parade! Parade! The beating feet
Of marching men an eon old!
A thousand eyes take in the sight,
Percieving nought of what is told.

A thousand cheers rise up in praise
To drown the cries of those long lost,
And blind the victims doomed to pay
For what tomorrow's war will cost.

Oh God, how long a time to know
That fire still burns when fed,
To know the terror of it all
Before these marching ones are dead?

The glitter of an army's might
Still flashes 'cross the human face,
And leaves each time a deeper scar
That time itself cannot erase.

Erase it? No, but cover it
With greed and resurrected pride,
Then watch the children once again
Approach the hungry, surging tide.
THE RETIRING STAFF

H. L. BEACH
EDITOR-IN-CHIEF

1939

T.B. YOUNG, JR.
MANAGING EDITOR

D. T. POPE
BUSINESS MANAGER

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ADVERTISING MANAGER

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AGRONOMY

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ANIMAL HUSBANDRY

L. M. RHODES
DAIRYING
Thirty-Six
THE AGRARIAN

for TOBACCO
Plenty of NV POTASH in your fertilizer reduces waste, improves the body, makes smoother leaves, reduces diseases and produces bigger yields of better quality which bring better prices. Tobacco is a potash-loving crop, removing from the soil more potash than both nitrogen and phosphoric acid combined.

for POTATOES
Plenty of NV POTASH in your fertilizer produces smooth, chunky, uniform No. 1 potatoes of better color and more even maturity. Potash-fed potatoes are more compact, better developed, thicker, shorter and wider—they have a high starch and low protein content, making them white, mealy and palatable when cooked.

for TOMATOES
Plenty of NV POTASH in your fertilizer greatly increases the yield of No. 1 tomatoes and reduces the cat-faces, puffs, culls and small, poorly-colored fruits. It keeps tomato plants vigorous and productive, helps them to resist disease and adverse weather, reduces cracking around the stems of the fruit, increases the percentage of good, red color and thickens the walls, making the fruit firm, well-filled-out and meaty.

for COTTON
Plenty of NV POTASH in your fertilizer PREVENTS RUST, helps control Wilt and produces vigorous, healthy plants with less shedding, larger bolls that are easier to pick and better yields of uniform, high-quality lint.

for VEGETABLES
Plenty of NV POTASH in your fertilizer produces bigger yields of the No. 1 grades that bring top prices—vegetables that are uniform in size, shape, color, texture and flavor. Potash-fed crops stand up under shipping and reach the market fresh, bright and firm. Potash is the quality builder. Remember, the average truck crop removes from the soil more potash than both nitrogen and phosphoric acid combined.

for ORCHARDS
Plenty of NV POTASH in your fertilizer increases the yield of high-quality fruit and improves the foliage and tree vigor of your orchard. Potash-fed trees resist disease and winter injury and produce fruit of better size and color and better keeping quality. Fruit trees, like general crops, need balanced fertilizer to produce good yields year after year.

YOUR FERTILIZER MAN will be glad to supply you with a mixture well balanced with plenty of NV POTASH that will increase the yields and improve the quality of your crops. Use NV POTASH—It Pays!

N. V. POTASH EXPORT MY., Inc., Hurt Bldg., ATLANTA
Compliments of
L. C. MARTIN DRUG CO.

P. S. McCollum, Proprietor
Official College Book and
Supply Store

Clemson College — South Carolina

PROVENCE-JARRARD COMPANY
INCORPORATED
PRINTERS
GREENVILLE, SOUTH CAROLINA
ELECTRIC SERVICE and
THE SOUTHERN FARMER

The rapid extension of electric service to farm communities, made possible through the increased number of uses for electric service in the home and on the farm, is bringing a new day of opportunity to Southern farm families.

Electric service may be used not only to the convenience and comfort, but to the profit of the dairyman, the poultryman, the livestock raiser, the plant grower, fruit grower, and the trucker. And it just happens that these are the farming operations to which our farmers, faced with drastic curtailments of tobacco and cotton acreages, may most logically turn for increased income and purchasing power.

Only a few years ago electric refrigeration equipment, sterilizers and water heaters for dairies were unheard of. No one thought of using lights and water warmers and electric brooders for poultry. Electric hotbeds for plant growers, florists and truckers were naught but a dream, if that.

Today, dairies are using not only refrigeration equipment, but electric sterilizers, water heaters, feed grinders and water systems, and saving and making money by doing so.

Poultrymen are finding it profitable to use electric brooders, feed mills, and, in winter, electric lights and electric water warmers.

Plant growers and truckers are using electric service profitably for electric hot beds, for curing potatoes and for other operations. (Experts of the South Carolina Extension Service estimate that the farmers of that state can increase their income on sweet potatoes almost by $2,000,000 a year through the use of electric service.)

The Duke Power Company is pleased to be able to make so important a contribution to the well being of the farmers of the area it serves during this period of revolution in the agricultural policy of this section.