

Cotton built this plantation home in the Southern Piedmont. But the declining production of eroded fields could not maintain it. SCS Photo.

FROM...

# Three Periods Of Southern AGRICULTURE

- Exploration
- Exploitation
- Permanency

**T**HREE words describe quite well the three periods through which Southern Agriculture has passed since the first European settlements were made on the western shores of the Atlantic Ocean.

Exploration! Exploitation! Permanency!

The hardy pioneers came mostly

from the British Isles, with a few from France, Germany, Spain, and other continental countries. But all brought with them knowledge and traditions of a husbandry better suited to a colder climate than what they found in their new homes.

Theirs was an era of exploration. Not only was it necessary for the first



...TO



Strip cropping, contour cultivation, terraces, protected water ways and proper use of every acre of land are pointing the way to a permanent agriculture throughout the Old Cotton Belt of the South. SCS Photo.

settlers to explore the tidal streams that flowed lazily through dense forests of pine and hardwood—they had to find the best uses to which the land might be put and discover the crops best suited to their conditions and potential markets.

#### **Natural Resources Abundant**

Our forefathers were surrounded by such a wealth of natural resources that it seemed logical for them to rely upon the products of the forest rather than to plant seed and spend months culti-

vating and harvesting crops.

The Honorable Harry Hammond writing in the South Carolina Board of Agriculture Handbook for 1883, described the activities of the early Carolina settlers as follows:

“They soon found it would be more profitable to employ themselves in collecting and exporting the products of the great forests that surrounded them. In return for the necessities of life, they exported to the Mother Country and her colonies, oranges, tar, turpentine, rosin, masts, potashes,

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By  
**T. S. Buie**

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**Columbia  
South Carolina**

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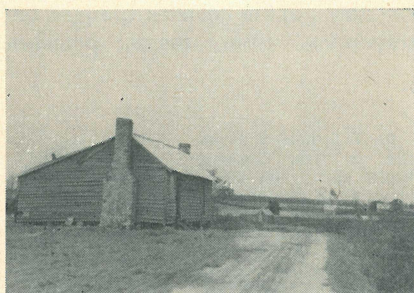




A common rotation cycle in the Southland during the Exploitative Period was cotton, gullies, broom straw and pines—similar to this hillside. SCS Photo.



The finger-sized corn stalks sparsely distributed over this eroded Piedmont hillside were caused by continued over-cropping without proper fertilization and attention to soil-improving crops. SCS Photo.



Such scenes were common during the exploitative period of Southern agriculture—now fast disappearing, replaced by pastures, ponds, and pines. SCS Photo.

cedar, cypress and pine lumber, walnut timber, staves, shingles, canes, deer and beaver skins, etc.”

In time, the situation changed—as they began producing annual crops instead of depending entirely on the forests and streams for both their sustenance and income.

### Indigo and Rice Plantations

The efforts of these early pioneers to introduce suitable crops and develop an established plant husbandry led to indigo and rice plantations in the coastal area.

In the tide-water section of South Carolina and Georgia, the social culture and living level was probably higher during the late colonial period than that of any other strictly agricultural community in the history of the world. But even during these years, most of the people relied on a system of subsistence agriculture. Of necessity, they had to be content with what they had at hand in the way of food and raiment. They did not have the means to acquire extensive land holdings, nor to own the number of slaves necessary to tend the crops on large plantations.

Although small cotton acreages were grown during this period, the laborious process of separating the lint from the seed limited the amount produced for market. Not until Whitney's cotton gin was developed in the 1790's did cotton become an important factor in Southern agriculture. Then the period of exploration, with its limited land use, came to an end.

### Period of Exploitation

Now the means for producing a crop in seemingly unlimited quantity for market were at hand. And, about this time, the expanded industrial activities in England and on the Continent created a demand for much more cotton.

Also, steam was being successfully applied to the transportation of goods by both rail and water. This made it



possible to move countless bales of cotton from the interior of the country to the coast and on across the ocean at small cost.

Thus, a period of exploitation of the land began early in the 19th century. For 100 years and more, Southern farmers were to clear the slopes farther and farther up the hillsides to expand their cotton acreage.

What did it matter if in only a few years the topsoil should be lost through erosion? The land would be paid for long before then, and there were always more acres waiting to be cleared, burned, and plowed. And for the more adventurous youth, the wide-open spaces of Alabama, Mississippi, Tennessee, Louisiana, and Texas beckoned.

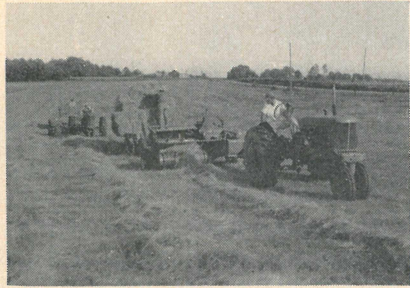
The reign of cotton as king in Southern Agriculture began shortly after 1800 and continued for more than a century. During this period, numerous incidents influenced agriculture. The most far-reaching in its effect was The War Between the States and the resultant freeing of the slaves.

But the effect of the War was largely economic and cultural. It did not markedly affect the system of agriculture. Slave labor or free, panic or prosperity, cotton remained supreme.

Under conditions faced by the 19th Century farmer in the Southeast, he did what was best for him and that which offered him the most stability. It would be grossly unfair to criticize the farmers of this period for damaging their land by continuous cotton planting. It was the one crop admirably suited to their economic and climatic conditions. Cotton was demanded by the world markets. Southern farmers could produce it, and they did just that.

### End of Exploitation Period

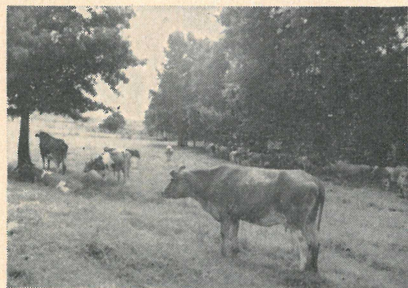
This period of land exploitation, characterized by overemphasis on cotton, began to end shortly after the close of World War I.



Countless former cotton fields are now planted to Coastal Bermudagrass. Fertilized heavily, this new grass provides excellent summer grazing and a surplus of hay for winter feeding as well. SCS Photo.



Today's Southern farmers are vitally interested in learning new methods. Here, South Carolinians study the planting of soy beans in grain stubble without prior land preparation. SCS Photo.



Traveling the highways of the South, through fields formerly planted to cotton, you now see more and more dairy and beef cattle grazing well growing pastures.

SCS Photo.





Who would have thought Southern farmers would plant corn and Bermudagrass in the same row? Yet, this South Carolina Soil Conservation District Cooperator did it, gathering 65 bushels of corn per acre from a field with an excellent stand of Coastal Bermuda to boot.

SCS Photo.

The reasons this period came to an end at this time were varied—ranging from changes in women's styles to the increasing efforts of many other countries throughout the world to become independent of the American cotton monopoly.

Also causing the end of this period were:

(1) *The shift of cotton from the old Cotton Belt of the Southeast and Middle South to the drier lands of the West,* (2) *the advent of the boll weevil,* (3) *the development of competing synthetic fibers,* and (4) *the long-deferred realization by many farmers that much of their land could not go on producing cotton year after year without dire consequences.*

Let us look at the condition of the land at the time this period of exploitative agriculture came to a close.

There was little reason for the first settlers along the coast to give attention to erosion. The land which they cleared for their limited use was flat and the fields small. But their grandsons and great-grandsons moved inland and, along with other settlers of a later day, found a country of hills and valleys. The soil was productive, however, and well suited to the ever-expanding cotton acreage. Countless hillsides, some of which were very steep, were cleared of their protective cover of trees and put to the plow.

Thus, as the Cotton Empire of the South grew, erosion became a menace. Nature took her toll. Throughout the Piedmont and other rolling sections of the Old Cotton Belt there are many evidences, even yet, of land misuse during this second or exploitative period.





The highly competitive nature of present-day farming makes it necessary to use the best methods of crop production. And this includes the application of supplemental water to high value crops such as bright-leaf tobacco in South Carolina.

SCS Photo.

### Two Important Developments

Two significant developments in this period were to have a marked influence and lasting effect on Southern agriculture:

(1) The application of scientific knowledge to the solution of the farmers' problems, (2) the development of the fertilizer industry as one phase applying scientific knowledge to agriculture.

Until the Land Grant Colleges and associated experiment stations were established about three quarters of a century ago, farming was largely an art with little science.

The early technical workers gave attention to problems of production: activities such as (1) *the development of prolific varieties of field crops and fitting them into practical rotations*; (2) *control of destructive diseases and*

*insects*; and (3) *the determination of what kind and amount of fertilizer to use for each crop on each kind of soil.*

The fertilizer industry, even in these formative years, was quick to utilize the scientific knowledge available.

Phosphates from the South Carolina coastal deposits, potash from the mines of Europe, and nitrogen from the nitrate beds of Chile and in the form of various manufacturing by-products were compounded to provide products which greatly increased crop yields.

Cotton planters soon recognized the advantages of applying commercial fertilizer to their fields. While the fertilizer was of low grade in terms of plant food and the rate of application correspondingly low, the effect on the cotton crop was marked.

*Fertilizer compensated in part for*



*the wasteful practices of land misuse and mismanagement. Only because it was available and used was much of the land kept in profitable production during the latter decades of the exploitation period.*

The percentage of plant food contained in the fertilizer and the rate of application steadily increased. Toward the end of this period, nearly one half of all the fertilizer manufactured in the United States was used by the farmers of the Carolinas and Georgia. And most of it was applied to cotton—the universal “cash crop,” at that time.

### **Beginning of Permanent Period**

As stated previously, the exploitative period began to give way to the Period of Permanent Agriculture shortly after the close of the First World War. By the middle of the 1930's, the Period of Permanency was in full swing. Certain factors, to which reference already has been made, contributed to the end of the exploitative period.

These and others were responsible for the development of the next, or permanent, period. Among the others which may well be mentioned were:

*(1) The increasing store of scientific knowledge developed as a result of agricultural research activities; (2) the dissemination of this knowledge to the rank and file of the farm population; (3) the initiation of a national soil and water conservation program; (4) changing economic and social conditions, and (5) the belated realization on the part of farmers generally that the soil is not indestructible—that it will not continue to produce crops year after year without proper care.*

Thus, after almost 300 years of exploratory and exploitative agriculture, our Southeast farmers are now entering a period of permanency insofar as land use is concerned.

They are now practicing a system of agriculture based on the capabilities of

the land itself and what it requires to produce indefinitely — without damage or hazard to the future.

It is, indeed, fortunate that this changed attitude regarding the proper use of land has occurred. Fortunate not only from the standpoint of the farmers who own and till the land, but fortunate also from the standpoint of those of us who do not live *on* the land but *from* the land.

### **Changes in Land Use**

This modern concept of proper land use, plus current economic developments, have caused a marked change in the way land is used in the South, as well as in other parts of the country.

For instance, we now produce a number of grazing and hay crops unknown to this section just a few years ago. These crops have helped our farmers shift from cotton and other row crops to a better balanced system of agriculture—one in which livestock is finding its proper place.

And one of the most important facts this new type of agriculture has taught us is that the *grazing quantity obtained from a pasture is in almost direct proportion to the amount of fertilizer applied.*

It is not uncommon to hear a farmer say: “That depends upon how much feed I will need,” as he replies to the question: “How much fertilizer do you apply to your pasture?”

### **The Future?**

What of the future? Cotton will continue to be grown in the Old Cotton Belt, even as we develop further the period of permanent agriculture. This period is just now getting well under way, but already we can recognize some of its characteristics. One of these is continued cotton production *on land well suited to that crop.*

There are, of course, difficult times ahead for the Southern Farmer. There will doubtless be years—possibly decades—when the Dixie farmer will find it difficult to make ends meet. The



shift to larger farm units and the movement of people from the land to new industries will undoubtedly continue. And the acreage devoted to cotton will, no doubt, be reduced substantially below what it now is.

But our landowners of the Southeast are now moving forward on a stable base, one which will insure permanency to their occupation and their use of the land.

No longer does the spectre of ero-

sion and abandoned fields stare them in the face.

No longer do they need to fear what their sons will do with the worn-out farms they inherit.

The present-day conservation type of farming will insure a degree of permanence our Southern agriculture has not known since it began almost three centuries ago with the displacement of the Indians along the South Atlantic Coast by the first European settlers.



## CORN LODGING

### IF YOU HAVE IT, HERE ARE SOME REASONS

Corn lodging and stalk breakage can't be pinned down to any single cause.

It can result from one or a combination of several things, according to Charles Simkins, extension soils specialist, and Herbert Johnson, extension plant pathologist at the University of Minnesota.

Some of the causes include:

1. *Root and stalk rot.* Fungus organisms called *Giberella* and *Diplodia* are the most important causes of root and stalk rot.
2. *Insect damage.* Corn borers, corn root worms, wireworms and other insects may weaken stalks, causing them to finally break and drop the ear. Also, the entrance made by an insect in plant tissue allows an easy pathway for root and stalk rotting organisms.
3. *Nutrient balance.* When the fertility level of soil is out of balance—especially when potash level is low—stalk rot may develop faster and cause more lodged plants. Also, research and observation indicates that applying nitrogen alone favors stalk rot.
4. *Plant populations.* Stalk breakage and lodging increases when there are more than 18-20,000 plants per acre. Stalks are smaller, generally taller and more susceptible to breaking at high populations.
5. *Corn variety.* Different varieties vary in their standing ability, an important factor in lodging. Some plants apparently contain soluble substances which slow growth of some stalk rotting fungi.
6. *Treatment with 2, 4-D.* This herbicide sometimes causes brittleness when sprayed on corn for a period of about 10 days following treatment.

Johnson and Simkins add that soil and weather also affect corn lodging. They say the greatest hope for a solution is in using resistant hybrids, insect control, proper fertilizing, using correct plant populations, and good crop management.