SOUTHERN I-H-C DEMONSTRATION FARMS

By G.H. Alford
Superintendent

Theodore Leopold

G. H. ALFORD
Of I H C Agricultural Extension Department

Managers

The managers deserve the credit for the work that is being done on the farms. They are energetic and skilful managers. Mr. W. K. Wood is manager of the Brookhaven, Mississippi, farm, and his son, W. L. Wood, is the manager of the dairy department. Mr. G. W. Thomas is the manager of the Marion, Alabama, farm. He attends to his own large farming interests, as well as manages the I H C farm. Mr. G. W. Trimble is the manager of the Trimble, Georgia, farm. He is also vice-president and manager of the Hastings Farm Company.

SOUTHERN I H C DEMONSTRATION FARMS

By *George Howard*
G. H. ALFORD

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AGRICULTURAL EXTENSION DEPARTMENT
INTERNATIONAL HARVESTER COMPANY OF NEW JERSEY
PROF. P. G. HOLDEN, Director
CHICAGO, U S A

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Explanatory Note

The International Harvester Company built a shed on each farm of sufficient size to house the farm implements and provide seating room for 300 or 400 people.

The Company also loaned each farm such implements as are absolutely necessary to carry on such operations as are required to bring maximum results from the soil.

In consideration of the above the owner of each farm set aside a plot of from 50 to 70 acres for five years to be farmed according to our instructions.

All that is grown on the I H C Demonstration Farms belongs to the managers, and they pay all bills.

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The I H C Demonstration Farms in the South

Three Demonstration Farms Maintained in Mississippi, Alabama and Georgia for the Improve- ment of Southern Agriculture

The demonstration farm movement under the direction of Dr. S. A. Knapp grew to enormous proportions. The movement owes its continuance under the direction of Hon. Bradford Knapp to the practicability of this method of educating farmers. There is perhaps no other one factor or force working for the betterment of agricultural conditions in the South that has done more to promote the welfare of that section of the country than demonstration farms.

The object of the International Harvester Company of New Jersey in establishing three demonstration farms in the South is to promote the cause of better farming. These farms are located at Brookhaven, Mississippi; Marion, Alabama; and Trimble, Georgia.

**A corn field on the IHC demonstration farm
at Marion, Alabama**

The Brookhaven Farm

Conducted for the Purpose of Demonstrating How a Run-Down Cotton Farm Can Be Made a Profitable Dairy Farm

At Brookhaven, Mississippi, we are changing a run-down, gullied cotton farm into a profitable dairy and diversified farm. An entirely new system of farming has been put into operation. The stumps have been removed from the land, better drainage has been established; improved seed has been introduced; the land is broken deeper; better methods of cultivation have been practiced; practically all of the feed for man and beast is now grown upon the farm; fairly good permanent pastures of Bermuda grass and lespedeza have been established; a dipping vat built; a silo built; a cream separator purchased and so on.

DRAINAGE. The soil is a sandy loam with a yellow clay subsoil. The lower levels of the farm were very poorly drained and as a consequence the crops over these portions have suffered severely during the seasons of excessive rainfall. More than one mile of open ditches have been cut and the land fairly well drained.

The velvet bean supplies a wealth of forage

WATER SUPPLY. The water for all stock comes from a deep well. The water is raised by means of a pump and a four horse-power gasoline engine.

DIPPING VAT. This territory is infested with the cattle or Texas fever tick. The concrete dipping vat filled with the arsenical solution has proved to be the most effective method of destroying the cattle tick. Lincoln County furnished the material and we built the vat by the plans and specifications and under the direction of Dr. Chambers of the U. S. Dairy Division. The cattle on our farm and other farmers' cattle are dipped in this vat.

THE SILO. We have built a round stave sixty ton silo on a concrete foundation at a total cost of \$116.35. The silo was built according to the

plans and specifications and under the personal supervision of Mr. L. A. Higgins of the U. S. Dairy Division.

SEPARATOR. Practically all of the milk is sold to Whitworth Female College and to soda founts. The small quantity of milk sometimes unsold is separated and the cream sold.

MANURE. The manure is carefully saved and applied with a manure spreader.

PASTURE. As grass is the foundation of successful dairy farming, we have about sixty acres in a Bermuda and lespedeza pasture. This soil is increasing in fertility and we will soon be able to add crimson, burr and white clover to furnish some winter grazing.

GOOD SEED. We realize the fact that like produces like and plant the most prolific seed.

Good cattle mean prosperity

ROTATION OF CROPS. There are many acres on this farm that must be fertilized and planted in vigorous growing legumes for two or three years before corn, oats and other crops that should enter into a systematic rotation can be grown to good advantage. The most vigorous legumes will be grown on the poorest soil and applications of acid phosphate and ground phosphate rock made until it is wise to practice a systematic rotation of crops on the entire farm. In the meantime, no crop that impoverishes the soil will be grown on the same land for more than two years in succession; the crops grown will be fed to dairy cows and the manure carefully saved and applied to the poorest spots with a manure spreader.

LEGUMES. Legumes cannot be expected to do well on this farm until the necessary humus and bacteria have been placed in the soil. However, it is only a matter of time and patient effort to grow all summer and winter legumes grown in this latitude. The soils are not typically acid soils, but an application of lime on a large part of the farm would improve the mechanical condition, promote bacterial growth and be especially useful in producing more favorable conditions for the growth of legumes. At present the cost of the ground lime rock, the long haul and the consequent high freight rate prevents its use on this farm.

FERTILIZERS. We are depending mainly upon deep plowing, the rotation of crops including leguminous crops, the addition of humus, and the application of barnyard manure to increase the productiveness of the soil. We are making small applications of nitrogenous fertilizer, acid phosphate and ground phosphate rock. After we have deepened the soil and filled it full of humus, we will use only ground phosphate rock in connection with barnyard manure.

Hairy vetch a good crop

WINTER LEGUMES. Crimson clover, burr clover, the vetches and other winter growing legumes will be planted on this farm after we have grown the summer legumes for several years. These winter legumes will not be planted too early in the fall so that the long, hot and often dry weather will prevent the germination of the seed, but early enough to get a good root system developed before frost.

FEED STUFFS. Our plan is to grow plenty for home use and some to sell.

Dwelling on Brookhaven, Miss., farm

Manager's Annual Report

To the Agricultural Extension Department,
International Harvester Co. of New Jersey,
Chicago, Illinois.

GENTLEMEN:

It is our pleasant duty to submit herewith our second annual report of the progress made on our I H C Demonstration Farm near Brookhaven, Mississippi.

Oats

From October 15th to November 10th, 1912, we planted 26 acres of bottom land in oats. By clearing this land of briars and bushes and ditching it was possible to raise a crop where a part of the bottom had not been used before.

Expenditures	
Breaking and harrowing.....	\$15.50
Planting.....	2.90
Hire of teams in harvesting.....	10.00
Thrashing.....	10.00
Seed.....	40.08
Total.....	\$78.48

Receipts

Pasturing five cows two months on 4 acres at \$1.00.....	\$10.00
485 bu. oats from 22 acres (valued) .62.....	300.70
	<hr/>
	\$310.70
Less expenditures.....	78.48
	<hr/>
	\$232.22

In April following 16 acres of the above was sown in lespedeza, from which we made but one cutting. (However, where the land is already sodded and we have a late fall it is possible to get two good cuttings.)

Receipts

31 tons lespedeza hay (about two tons per acre), valued at \$15 per ton (local market value).....	\$465.00
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Expenditures

For lespedeza seed, $1\frac{1}{2}$ bu., per acre 8 bu.....	\$32.00
Sowing.....	1.10
Freight on seed.....	.31
	<hr/>
	33.41
	<hr/>
	\$431.59

From the above 26 acres we realized a profit of \$663.81, or \$25.53 profit per acre. As the 16 acres is well sodded we expect to increase our profit almost double in another year.

Harvesting oats on I H C farm

Corn

We planted 15 acres in corn, from which we gathered 450 bushels corn.

Expenditures	
Breaking land.....	\$15.75
Seed.....	3.00
Planting.....	2.00
Manure (from our barn).....	46.00
Hauling manure.....	3.00
Hoe hands.....	6.20
Cultivating.....	17.25
Harvesting.....	8.75
Total.....	\$101.95
Receipts	
450 bu. corn (market value), \$0.80.....	\$360.00
Less expenditures.....	101.95
	\$259.05.

Corn grown on I H C farm

Ensilage

Expenditures	
Breaking land and harrowing.....	\$11.50
Seed corn.....	3.00
Planting.....	1.95
Hoe hands.....	2.50
Cultivating.....	7.00
Three men cutting corn.....	9.00
One driver of wagon.....	2.00

A. E. Fender running his cutter and furnishing assistant 21.4
 hours at \$1.00 per hour actual running..... 21.40
 Extra help unloading..... 1.80

Total.....\$60.15

Receipts

60 tons ensilage (feeding value for dairy cattle), at \$8.00 per ton....\$480.00
 Less expenditures..... 60.15

Net receipts.....\$419.85

The above tonnage of ensilage was produced on ten acres. We are feeding 20 dairy cows about 8 tons per month, having begun feeding on November 10th, 1913. At this rate the silo will last until April 15, 1914, or until the pasture is ready to graze. Without charging Ensilage Account with the rent of land it can be seen from the above expenditure that the cost of production was \$1 per ton.

Silo on I H C farm

Sweet Potatoes

Expenditures

12 bu. seed.....\$ 8.70
 Bedding out......50
 Breaking land, etc., for planting..... 6.00
 Setting out slips..... 10.80
 Cultivating..... 3.50
 Harvesting..... 7.50
 Banking potatoes..... 1.25

Total.....\$38.25

Receipts

On five acres planted in sweets we harvested 303 bushels valued at
 60 cts. per bu.....\$181.80
 Less expenditures..... 38.25

Net receipts.....\$143.55

FALL PASTURE. Besides our permanent pasture consisting of 60 acres, we planted 17 acres of thin land in velvet and soy beans for fall pasture for our live stock.

DAIRY DEPARTMENT. Realizing that this section is especially adapted for the growing of grasses, and with due appreciation of the fact of the long period for the pasturing of cows, we started to build up a dairy herd on August 1st, 1912, with a herd consisting of 12 cows then fresh in milk and four heifers.

DAILY MILK AND FEED RECORD. We have been keeping a daily milk and feed record since August, 1912, under the supervision of Mr. L. A. Higgins, of the U. S. Bureau of Animal Industry, Brookhaven Division thereof. Under this system every pound of milk has been recorded, every feed carefully weighed, and every cow tested once a month by Mr. Higgins with his Babcock test. Besides, we have a Babcock testing outfit for our daily use in testing cream in order to give the proper percentage of butter fat for a profitable sale, and for the purpose of keeping check with the creamery account in the sale of the surplus milk over our retail trade. But by far the most valuable service we receive from the records kept is the knowledge which it provides for the purpose of weeding out the "boarder" or "robber" class of cows.

Lespedeza field on I H C farm, Brookhaven, Miss.

THE BARN AND SILO. We have heretofore given an account of the building of a stave silo. This year we gave the silo an additional coat of paint both inside and outside with a solution of tar and creosote which served to seal the silo, preventing all possible air holes. We have added more stanchions to accommodate the increase in our herd and have given the barn frequent applications of whitewash.

PASTURE. From April 1st, to October 1st, 1913, our pasture of 60 acres was ample to provide pasturage for all live stock. There was a fair growth which had been harvested during the previous year. The cultivation of the oat crop totally destroyed the dog fennel or "bitter weed." From October 1st to December 1st, we pastured all stock on the fodder and stalks left standing after harvesting the crop of grain corn. In the same field the cows found good grazing on the 17 acres planted in velvet and soy beans.

WATER. We are continuing the use of the pump for watering our stock in the barnyard and find that the fresh water is much better than water from running streams, as the water is of even temperature and much purer, as is evidenced by the absence of disorders in the cows and imperfections in the milk.

Nothing better than manure to enrich the soil

THE HERD. Our herd now consists of nineteen cows well selected after applying the record and milk test, five two-year-old springers and five heifer calves, one year old and under. The last named ten head having registered Jersey sires and grade Jersey dams.

It is our desire to eventually build up a pure bred herd. We therefore purchased on March 25th last, Mat's Eminent, a young Jersey bull, now eighteen months old, weighing 685 lbs. This animal was selected for productive qualities out of the large herd of Mr. J. A. Lee, of the famous Jersey settlement of Shelbyville, Ky., by Mr. L. L. Lampton, of Magnolia, who wanted to introduce good stock in this part of the State. We also purchased from Mr. Lampton, who purchased from the same source, a large type registered Jersey cow, Koumiss Girl 6th, dropped November 10th, 1907. This is a cow out of the original Koumiss Girl 137556 of the famous Tormentor line. After she had been transported at a time three months from calving, she gave during December last 1,125 lbs. milk testing 7.4, or 83.25 lbs. butter fat. Her record was 48 lbs. milk before leaving Shelbyville, Ky. We purchased another young bull, Mona's Noble No. 117553 out of Mr. Lampton's herd. This animal is of a show type weighing at seven and a half months 328 lbs. For a good healthy growth we are feeding corn and ground oats one part each, and bran and cotton seed meal one part each, 6 lbs. daily with a liberal amount of lespedeza hay and corn ensilage.

Profits from Dairy

The bulk of our milk is regularly sold to Whitworth Female College, a candy kitchen, several restaurants and soda fountains here in large quantities. We handle some retail trade on the route to the above places with regular customers. Our average receipts per gallon is 30 cents. Our total monthly profits from January 1st to November 1st, 1913, is taken from our monthly record feed and milk sheets, a certification of which is attached hereto as "Exhibit A" to this report and made a part hereof. The monthly tabulation is as follows:

1913	
January.....	\$ 93.22
February.....	100.50
March.....	126.56
April.....	125.07
May.....	96.71
June.....	107.28
July.....	96.54
August.....	105.85
September.....	106.78
October.....	111.35
November.....	113.74

Total for eleven months.....	\$1,183.60
Average profit per month.....	\$107.60

Above certified to by L. A. Higgins, U. S. Dairy Division.

Velvet beans in corn, Brookhaven, Miss., farm

Dr. J. A. Kiernan, special agent of U. S. Department of Agriculture, addressing farmers in field of Brookhaven, Miss., I H C farm

BY-PRODUCTS. From the skimmed milk fresh from the separator we have a sufficient quantity to feed all heifer calves, and have raised ten head of hogs during the last eleven months. In this connection, we find that it is much more convenient and healthy to feed young calves in separate calf stanchions. We made a small shed and provided stanchions sufficient to accommodate the calves. In this manner each calf receives the amount necessary and is not disturbed by the older ones, and besides there is no chance for ear sucking.

BUTTER MAKING CONTEST. On January last we entered a butter making contest conducted at the Miss. A. & M. College by the Agricultural College in conjunction with the U. S. Dairy Division. Three prizes were offered at first, viz.: (1) a registered Jersey bull; (2) a U. S. cream separator; and (3) an eight bottle Babcock milk tester and a milk scale. Two more prizes were afterwards offered by prominent Mississippians. All contestants whose average for the twelve monthly specimens is over 90 will receive a diploma in butter making. Reports are accompanied with each pound for scoring giving minute details of care of cream, churning, etc. After the butter is scored suggestions for improvement are offered by the men in charge. While we have no idea of making butter for the mere sale of butter, we entered the contest in order to improve our grade of butter for home use. It is now too early to give the result of the contest. At first we received a score of 92 and have constantly improved up to 95. We attach hereto our four last scores August (94), September (94.5), October (95), November (95). Our last score in the contest has not as yet been announced.

BARN YARD MANURE. We have recently distributed and plowed under 75 loads of manure for our next year's corn crop, and for the eleven past months the amount saved was 165 tons.

IMPROVEMENTS. Since our first report we have put in at least one mile of ditching and have made a good start towards straightening the branch so as to better drain our bottom land. This work will be continued throughout the winter months, using all help and teams for the purpose.

Respectfully submitted,

W. K. WOOD, Manager.

W. L. WOOD, Assistant Manager

Marion, Alabama, Farm

Conducted for the Purpose of Showing the Necessity and Value of a Systematic Rotation of Crops, Including Leguminous Crops

This farm is on the edge of the black land belt. Large areas of this land are fertile, but the larger part of it has been under cultivation by negro tenants for from eighty to one hundred years and is in sore need of special treatment before satisfactory results can be obtained.

This land is gently rolling, upland sandy soil and is well drained. We will gradually deepen the soil for the following reasons: first, to increase the water holding capacity; second, to let the water escape from the surface without running over the ground and washing it off; third, to permit the air to circulate freely for a considerable depth in the soil; fourth, to secure the crops against drouth by enabling the roots to go down to perpetual moisture; fifth, to increase the area from which plant roots may obtain food.

DEEP SOIL. We realize that it is not wise to attempt to make this shallow soil deep in one year by mixing seven or eight inches of subsoil with one inch of top soil. We are plowing this soil deeper every time it is broken and turning under vegetable matter. We use the stalk cutter and disk harrow to cut the corn and cotton stalks into pieces so that they may be turned under to supply humus.

Profs. P. G. Holden, J. F. Duggar, Dr. W. E. Hinds, J. E. Waggoner, J. E. Buck,
G. H. Alford, G. W. Thomas, the manager and others in cotton
near dwelling on Marion, Ala., farm

A good stalk of cotton

ONE HORSE PLOW. We realize the fact that one of the chief enemies to progressive agriculture in this section is a one horse plow. We are using large plows and strong teams to thoroughly pulverize this soil for from five to twelve inches deep.

FERTILIZER. We have no accurate experiment or exhaustive data that shows in detail just what fertilizer formulas must be constructed to meet the needs of corn, cotton, oats and leguminous crops on this soil. Mr. George W. Thomas, the manager of the farm, is now conducting careful and accurate experiments under the direction of Dr. J. F. Duggar, director of the Alabama experiment stations, and will settle this point in a few years. In the meantime

we will practice a systematic rotation of crops including leguminous crops and apply acid phosphate, barnyard manure and some other nitrogenous fertilizers.

We are practicing a three year rotation on this farm: first year, corn and cowpeas; second year, oats followed by soy beans; and third year, cotton.

CORN. We planted corn and peas on this land in 1912. Negro tenants had grown cotton on it for at least fifty years. They had averaged about one bale of cotton to every five acres for the past five or six years.

We cut the cotton stalks and broke the land about eight inches deep in February. The land was left in this shape until the latter part of April, when it was thoroughly disked with a disk harrow and then harrowed with two sections of a peg-tooth harrow until thoroughly pulverized. The corn was planted on a level in rows five feet apart.

About five tons of barnyard manure, applied with a manure spreader just before planting time. An application of five hundred pounds of a mixture of one thousand pounds of acid phosphate, five hundred pounds of cotton seed meal and five hundred pounds of Kainit was made at the second working of the corn and an application of about fifty pounds of nitrate of soda was made when the corn was bunching to tassel.

As soon as the corn came up to a good stand, a harrow was run over the field to break the crust and destroy the grass and weeds. A cultivator was used for all the later cultivations to keep the surface carefully mulched and the weeds and grass down. The corn was cultivated until the tassels were all out and one bushel of cowpeas sown broadcast in the middles at the last working. We harvested an average of more than forty bushels per acre. There were several acres in the field that made as much as seventy-five bushels per acre.

OATS. The corn was harvested early in October. The live stock harvested the peas. The corn stalks and pea vines were cut into small pieces by the use of the stalk cutter and disk harrow. The land was broken with two large mules and a ten-inch plow in October and November, going as deep as we could well plow and turn under all vegetable matter.

The land was thoroughly disked and about two and a half bushels of oats planted per acre with a combination grain drill and fertilizer distributor. An application of about four hundred pounds of 16 per cent acid phosphate was made per acre at planting time and about 75 pounds of nitrate of soda the following March.

The oats suffered from one of the most severe droughts ever experienced in the State.

The oat crop was almost a failure. The following is a statement:

Plowing.....	\$ 2.00
Fertilizer.....	4.65
Seed.....	1.60
Drilling.....	.50
Harvesting.....	.40
Hauling.....	.50
Threshing.....	2.00
Baling straw.....	1.00

Total cost per acre.....\$12.65

Receipts

26.5 bushels at 80 cts.	\$21.20
Cost per acre.	12.65
Profit per acre.	\$ 8.55

The ground was so dry and hard when the oats were harvested that it was impossible to plow or disk in soy beans. A fine crop of crab grass hay was harvested after the oats.

PERCHERON MARES. Grade percheron mares are actively engaged in farm work and colt production.

Leguminous crops are grown to assist in filling the soil full of humus and nitrogen and to obtain valuable feed for live stock. Leguminous crops usually mean fertile soil and fat stock.

G. H. Alford on left; Mr. Richardson on right in cotton
on Marion, Ala., I H C farm
Made nearly 3 bales per acre

Trimble, Georgia, Farm

Conducted for the Purpose of Demonstrating the Value of the Most Prolific Varieties of Seed

The soil on this farm is a sandy loam of a yellowish or sometimes grayish color, ranging from a few inches to ten or twelve inches in depth, depending upon the amount of the erosion. The sub-soil is a red clay containing an appreciable amount of coarse sand. The surface of the soil is gently to heavy rolling. However, medium size areas are found that are as level as a farmer would care to have land.

No system of farming on these soils can be counted safe and sane that does not provide for deep plowing and the incorporation of a liberal amount of organic matter or humus in the soil each year. The soil on this farm is plowed with large plows and strong teams.

Cotton on I H C farm, Trimble, Ga.

We have some very fertile bottom land and some worn-out land with galled spots and gullies right in the middle of it. We intend to make all of the soil fertile by gradual and easy stages. We will practice a systematic rotation of crops, including leguminous crops, plant winter cover crops, turn under vegetable matter, put in strong terraces and apply the necessary fertilizer.

DIVERSIFY CROPS. We raise our own meat, grow the necessary feed-stuffs and grow cotton, corn, oats, cowpeas, sorghums and other crops, for home use and for sale, but our work on this farm consists in the main of producing prolific cotton, corn and oat seed.

Baling the shredded corn stalks on I H C farm

SEED SELECTION. We are of the opinion that next to the better and more thorough preparation and cultivation of the soil, the proper selection and production of prolific seed is the work most needed in the Cotton Belt. The variety tests at the experiment stations show that of twelve of the leading varieties of corn tested, the difference between the highest and the lowest yield per acre on the same type of soil with identical cultivation and fertilization was 15.2 bushels at 50 cents per bushel for corn, while for cotton it was 790 pounds of seed cotton at 3 cents per pound. This gives us a clear gain over the poorest of \$7.60, and for cotton \$23.70. We believe that the yields

A disk harrow cultivating cotton

on many farms in the Cotton Belt can be increased one-fourth by planting the most prolific seed instead of seed that has run out.

Mr. D. S. Starr has charge of seed breeding work on this farm. He also has charge of seed breeding for the Hastings Farm Company. Mr. Starr is one of the best posted seed breeders in the South. Mr. Starr has the following to say relative to the breeding of cotton on this farm:

"We grow about fifty thousand stalks of cotton from about twenty of the standard varieties. From these fifty thousand stalks we pick from three thousand each year in paper bags and subject it to the following tests: First, the parent stalk must have made at least one pound of seed cotton; second, there must not be more than one mote to the boll; third, the lint must be one inch long and when ginned must be from 36 to 40 per cent lint; fourth, the lint must be from 8 to 10 grams strong; fifth, the lint must be uniform when combed out—not shaped like a butterfly; sixth, the lint must have a strong drag; seventh, the stalk must be free from disease; eighth, the stalk must be very prolific and not have too heavy foliage; ninth, unless it has other very strong characteristics, it must be early; tenth, the progeny of this stalk or stalks must not show up white streaks in the field or the seed go to the oil mill the second year.

If the seed from one of these stalks stand the nine first tests for the first year and the tenth for the second year, they are then planted in the cotton fields.

Farm power house for a diversified farm

The field is cut up by parallel roads and walks one-half acre apart making rows one-half acre long, and the seed from the paper sacks that stand the above tests are planted in checks three by four so that each stalk will have the same chance as the other. Poor spots in the field have stable manure or an extra amount of fertilizer.

A rice field

We usually plant the seed from about six hundred of the three thousand stalks selected. The seed from one stalk plants about six rows one-half acre long with thirty-five hills to row, making 210 hills. All the stalks selected look good in the field; six hundred of them look good in the laboratory and about one hundred of them when planted show up to be first class breeders. The seed from the progeny of these good stalks go to the general farm and from there many of them go to the oil mill, but, of course, the best are always kept.

We are supplied with a large cotton house containing one hundred rooms to keep our different varieties of cotton separate. We have a small ten saw hand gin to gin the seed from individual stalks and quantities of cotton under fifty pounds. We have a twenty saw gin for cotton less than a bale and large gins for the different varieties. We have a fibre tester to test the strength of the staple and a high power magnifying glass to study diseases, a delicate pair of scales for weighing small quantities of cotton.

WINTER CLOVER CROP. Crimson clover was planted in the cotton on September 1st. On December 20th the clover was hand high. This clover will prevent washing, reduce leaching to a minimum, add nitrogen and humus to the soil and furnish valuable grazing.

Corn on I H C farm

Poultry Profitable in South

Conditions for production of poultry are excellent all through the Southern region of the United States because:

1. The climate is conducive to vigor and strength of the fowls.
2. Kafir or other sorghum grains furnish excellent feed and are adapted to this region.
3. Good markets are within easy reach.
4. Turkeys thrive well and are especially profitable, as during part of the season they feed almost entirely on grasshoppers.

Poultry is profitable

We keep poultry on each farm. There is no more profitable line of farming in the South.

What Tick Eradication Means

The more important losses for which the tick is responsible are as follows:

1. Deaths from tick fever among native cattle and pure-bred cattle imported from the North for breeding purposes.
2. Deaths of cattle north of the quarantine line from fever following the occasional accidental introduction of the tick.
3. The temporary and permanent arrest of growth and development resulting from attacks of the fever.
4. The decrease in weight and the lessened rate in putting on flesh in the case of beef cattle, and the decrease in the amount of milk produced by dairy cattle, as the result of the irritation and loss of blood occasioned by great numbers of ticks.

Dipping vat on I H C farm, Brookhaven, Miss.

5. The prevention of Southern breeders from exhibiting their stock in the North.
6. The decreased price that Southern cattle bring on the market on account of the restrictions placed upon them.
7. The considerable expense incurred each year by the Federal Government and the infested states in establishing quarantine lines and enforcing regulations to prevent the spread of Texas fever.

Draft Horses and Mules

The Agricultural Development of the South Depends
Largely Upon the Use of Improved
Farm Machinery

Probably the chief cause of poverty in the South is the one-horse breaking plow. The small mule and a small turning plow is a guarantee of shallow soil devoid of vegetable matter or humus. A shallow soil devoid of vegetable matter means small crops and poor farmers. The soil should be deep and full of humus in order to increase the storage capacity for water and thereby enable it to hold enough water to carry the crop through the longest drought in the summer though heavily fertilized. We cannot plow deep or turn under the corn and cotton stalks, oat and pea stubble, grass and weeds with a one-horse plow. We are using large plows and strong teams on our farms.

What a One Crop System Means

1. Poor soil.
2. Small crops.
3. The credit system.
4. Work unevenly distributed.
5. Injurious insects and plant diseases.
6. Cotton money sent to other sections for farm products.
7. Scarce money and high rates of interest.
8. Poor people, poorly equipped farms, uncomfortable homes, bad roads, poorly paid teachers and preachers.

What Diversified Farming Means

1. Less acres in cotton.
2. The growing of the crops necessary for home use.
3. The growing of crops to enrich the soil.
4. Good permanent pastures.
5. Forage crops, principally leguminous crops.
6. The raising of good live stock to consume the leguminous crops grown to enrich the land and to make manure to still further enrich the land.
7. Feeding crops grown to good live stock.
8. The careful saving of barnyard manure.
9. The distributing of farm work evenly throughout the year.
10. Green crops growing on the land every month in the year.
11. Reducing soil washing and leaching to the minimum.
12. Raising of the draft horses and mules necessary for economical crop production.

Feeding Beef Cattle

	Lbs. of beef
One acre of soy beans produced.....	540
One acre of cowpeas produced.....	327
One acre of corn produced.....	203

Grow soy beans and cowpeas to feed cattle and enrich the soil.

Tenn. Bul. 79.

I H C Booklets

These booklets will be sent to any address upon receipt of the amounts named below. Quantity lots are sent transportation charges collect.

NAME	Single Copies Each	Quantities Each
The Story of Bread	\$0 03	\$0 02
The Creeds of Great Business Men	05	03
Getting a Start with Alfalfa in the Corn Belt	02	01
Lecture Notes for Alfalfa Charts	04	03
Studies in Alfalfa	04	03
Alfalfa Sermon	02	01
Sweet Clover	04	03
Seed Corn	03	02
Alfalfa in the Cotton Belt	02	01
For Better Corn in the Cotton Belt	02	01
Diversified Farming in the Cotton Belt	04	02
The Boll Weevil	04	03
The Cattle Tick	02	01
For Better Crops in the South	04	03
I H C Demonstration Farms in the South	02	01
For More and Better Corn in the Northwest	02	01
For More and Hardier Alfalfa in the Northwest	02	01
Poultry Book	02	01
The Golden Stream	05	02
The Disk Harrow	04	02
For Better Crops	06	03
Engine Operator's Guide	03	02
The Story of Twine	03	02
Binder Twine Industry	20	15
Harvest Scenes of the World	50	35

“The Rag Doll” for Testing Seed Corn —

Cloth, each 10c; per dozen, 75c.

Paper, per dozen, 5c.

Plans and Specifications for Farm Buildings, per plan, 5c.

Besides the booklets named above, from time to time there will be issued other interesting agricultural booklets pertinent to crops in all parts of the United States. Future issues will treat such subjects as cowpeas, soy beans, peanuts, velvet beans, rice, sugar, cane, silos, feeds and feeding, weeds, insects, etc.

Agricultural Extension Department

Harvester Building

Chicago, Ill.

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