

ALL AROUND THE FARM.

HOW ALFALFA BUILDS UP THE SOIL.

An Increase of 60 Per Cent in Corn and Cotton After Two Years of Alfalfa—Legumes Necessary to Maintain Soil Fertility.

Messrs. Editors: Everywhere over our country one sees lands that are washed, gullied, "laying out," or producing unprofitable crops. They are examples of repetition of agricultural history the world over, where a one-crop system predominates, as here. One reads of districts in Europe which have been farmed 800 years and are still producing good crops. Those men are truly farming and not robbing the soil inherited by them.

These lands so depleted by us are first robbed of their nitrogen and humus—products secured from organic matter. These are added by barnyard manure, other vegetable matter, or such crops as alfalfa, clovers, or peas; and these, when used properly in a crop rotation aid in restoring the lands to their virgin productiveness.

Their nodules decaying leave their deposit of nitrogen gathered from the air. Their roots are true subsoilers bringing up plant food from greater depths. These roots, when they die, leave vegetable matter to decay and make humus.

Not only is actual fertility in the way of plant food added but the physical condition as well is benefited. The ground is more mellow and plows easier.

Last year we noticed a field newly sown to alfalfa, in the fall, behind a thin stand of peas. The alfalfa was growing vigorously and six inches high. By the side of this and on the same character of land and with the same treatment except the one crop of peas the alfalfa was two inches high with a weak growth.

On another farm in north central Alabama a rotation of red clover two years, then cotton, and next corn, was followed in 10-acre fields. Each tenant managed 30 acres this way. They agreed they produced as much cotton or corn on the allotted

10 acres as they would on the whole 30 acres without the two years of clover. In place of working 30 acres each year they had only 20 to go over, so could farm it better. The red clover was sown in the fall on the corn lands.

On our plantation fall oats sown on land two years in alfalfa produced 54 bushels per acre. In the same field on the same kind of land, except it had been in cotton, oats yielded only 25 bushels per acre—a difference of 29 bushels in favor of alfalfa on land for two years. The second and third year the line of division was readily distinguished.

Corn planted on land, for three years in alfalfa, yielded 38 bushels per acre. Before the alfalfa its maximum yield was 25 bushels per acre. In another field there was a difference of 12 bushels in favor of alfalfa on the land for two years, besides the other land by the side of this was aided by five to seven tons of stable manure from horses. A difference of at least 60 per cent is to be expected as a result of increased fertility due to alfalfa kept on land two to four years.

How long it is best to leave alfalfa growing on a field to get the maximum fertilizing value is a question yet unsolved. It seems that it gives its best results in a systematic rotation of four to six years.

Where alfalfa is not a paying crop the clovers and peas will aid very materially in restoring land toward its original production.

JESSE M. JONES.
Montgomery, Ala.

WHEN COTTON FIRES OR RUSTS IN AUGUST.

My land is a sandy loam, clay subsoil from 6 to 18 inches. Have been following the three-year rotation system for fifteen years. Cotton, corn and small grain. I always mow the peas following the small grain, but plow under the peas on the corn land.

I use the following formula on my cotton: Acid phosphate, (16 per cent), 400 pounds; cot-

tensed meal, 300 pounds; muriate of potash, 50 pounds. This much per acre. I have made as high as 2,400 pounds seed cotton per acre, but that was fifteen years ago, and yet I have used more fertilizer since then and have kept up the three-year rotation plan since then. I have noticed for several years past I have had what we call "fire" or "rust" coming on during August, at the time when the cotton seemed to be doing its best. This destroys everything on the plants except the grown bolls. Some parts of the field are affected worse than others. The grain crops increase every year. Sixty bushels of oats this year, with 500 pounds fertilizers, and only 1,700 pounds seed cotton from 300 pounds fertilizers. Forty bushels corn from 300 pounds fertilizers. Can you give me any reason why this should be, and suggest a remedy?

W. F. McL.

(Answer by Prof. W. F. Massey.)

I think that a large part of your trouble is that you have been using fertilizer annually on every crop, and have gotten your land into an acid condition. As each field comes in corn, I would apply about 25 bushels of slaked lime and harrow it in after plowing the land, and in keeping on

with your rotation I would lime the land once in six years. After the first liming only use 20 bushels. What would be the result in applying the lime before planting cotton I cannot say, but it would have a very good result on the corn, and would keep the soil sweet for years.

You do not say what fertilizer mixture you use, but if I were running a similar rotation, I would always sow crimson clover after mowing the peas, and would have a good crop of clover to turn for corn and cotton, as I would sow crimson clover among the cotton, too, about the second picking. Then I would try to have enough peavine hay, fodder and

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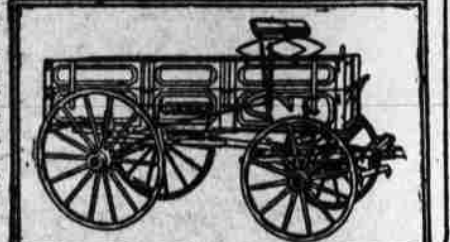
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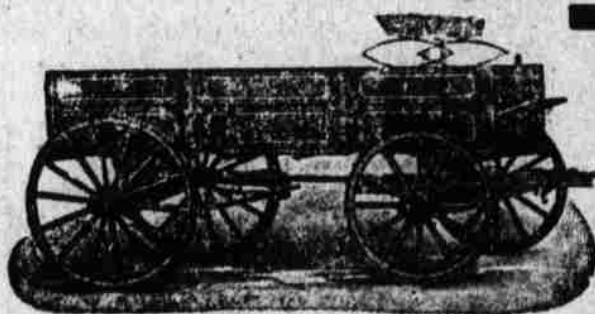
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