INCREASING CROP YIELDS.

"Cultures" For Farmers Who Need and Desire Them.

(Weekly News Letter, U. S. Department of Agriculture.)

When certain kinds of living organisms which take nitrogen from the air are properly worked into the soil, crop yields are often greatly increased, and land that is worn out is put in condition for bearing more crops. The office of soil bacterology investigations is an important branch of the department's bureau of plant industry, and not only investigates the bacteria beneficial to the soil, but prepares cultures of certain kinds for distribution to farmers, who may use them to make their farming more profitable. During the past year this office distributed enough culture of bacteria to treat about 200,000 acres of crops, such as alfalfa, vetch, crimson clover, red clover, cow peas and soy beans.

Upon the recommendation of representatives of the department, especially county agents, the "cultures" are distributed to farmers who need and desire them. The department's agents in their distribution are endeavoring to encourage the use of legume crops, such as alfalfa and cow peas, in crop rotation systems so as to maintain the fertility of the land.

Distributions of "inoculating material" have been made by the department since 1902, when the first practical method was evolved for preparing pure cultures of bacterie for inoculating legumes. These basteria are called "nitrogen fixinfi," because they are able to absorb nitrogen gas from the air and "fix" it into solid compounds in the soil, where it is a valuable plant food.

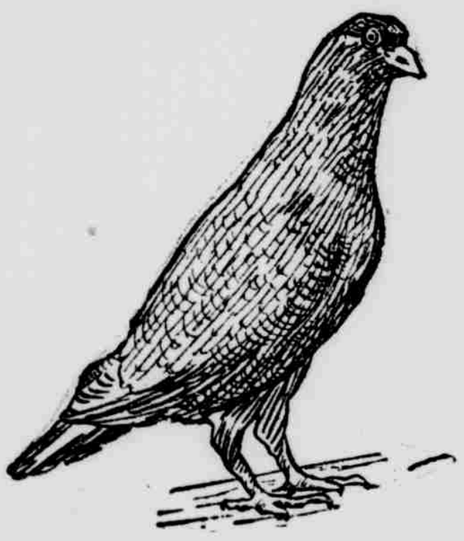
When we go out to buy dairy cows do we not always find a scarcity of good ones and too many poor ones? In breeding, therefore, this is a fact to be remembered.

Age of Pigeons is Important.

By C. Graham.

Pigeons are considered to be at their prime when three years old, and there are very few pairs that pay for their feed after they are seven years old. They depreciate in value with age. Professional dealers in pigeons have been known to buy old pairs for from sixty to seventy cents and then sell them to the unsuspecting purchaser as guaranteed mated birds at several dollars a pair. For this reason a person should buy pigeons only from some dealer with whom he is personally acquainted, or from some one who is willing to guarantee not only as to the birds being mated, but also as to age.

The females are, as a rule, more delicate than the males in both old and young pigeons, and when buying young birds the purchaser is quite likely to find among them many more males than females. Not only is it es-



Red Carneau Cock, Weight 1 Lb., 3 Oz.

sential to have nothing but mated birds in the loft, but they should be from good hardy stock. Some breeders have been known to force their stock to such an extent that they have lowered the vitality. Others are surrounded by conditions that it is impossible to produce good, vigorous birds. While same select their larger squabs for market and keep the smaller birds, which would sell for a much lower figure as market squabs, let them grow and sell them later as breeders.

Great care should be taken in the purchase of stock to know that it is from lofts were there is no vermin. It is next to impossible to get lice out of the loft when the flock once gets thoroughly infested, and the introduction of one or two dirty pigeons will very soon cause such a condition. Flocks will be found where there is a tendency toward roup, canker, and other diseases, and these must be avoided if success is to be secured. Owners of flocks that have been infested are generally anxious to dispose of them, and dealers have been known to purchase these goods and after a little doctoring, offer them for sale, being careful to say, "They are mated birds and in the prime of condition as far as age, weight, etc., are concerned." It is such experiences as these that cause many to have ill luck from the beginning; in fact they failed before they had really begun.

Alfalfa seed are expensive, and the heavier yields of hay are not usually secured until the second or third year or later.

A Most Popular Bird at This Season. Lucky Indeed is the Farmer Who Has a Large Flock of Them to Sell.

NEW SYSTEM OF COTTON CULTURE IS A WINNER.

Produces Increased Crops, Department Circular Shows.

Photographs which show in detail why the new system of cotton culture recommended by the department produces earlier and increased crops are contained in a new circular entitled "Single-Stalk Cotton Culture." This circular follows up the department's farmers' bulletin No. 601 entitled "A New System of Cotton Culture." Both of these publications may be had for the asking by interested cotton growers. While farmers' bulletin No. 601 gives detailed explanation of the method, the new publication contains photographs of plans in the field showing the development of the new system of culture and the results secured in actual practice, in California, Texas and Virginia. These demonstrate the methods of procedure under the new system of culture and its value to the farmer, says the weekly news letter of the United State Department of Agriculture.

A concrete demonstration is given of how single-stalk plants may be grown close together in the rows and yet have less crowding than with widely-spaced large plants and numerous vegetative branches. One illustration shows Egyptian cotton growing in California with the vegetative branches almost entirely suppressed. Here the lower fruiting branches have developed and have produced an early crop. These plants are shown growing in Texas and Virginia. The photographs show the complete suppression of the vegetative branches by the new method of thinning and the single-stalk plants standing about eight inches apart, with the result that the rate of flowering shows an advantage of 42 per cent in favor of the single-stalk rows over the open-spaced rows, while the average yield of the single-stalk rows is 53 per cent better.

The general result of the new system is to secure an earlier production of flowers and bolls. When the new and old systems are compared by applying them to alternate rows there are striking differences of behavior. The advantage is greatest, of course, under extreme conditions where the season of production is shortened by drought, early frost, or the ravages of the boll weevil. The rate of flowering of rows of single-stalk plants, as shown by daily counts early in the season, has been found to average far above that of the intervening rows of larger, many-stalked plants, the differences sometimes amounting to from 40 to 60 per cent. At the end of the season correspondingly increased yields are obtained from the single-stalk rows, in somes over 50 per cent.

The new circular is issued now so that it may be in the hands of all cotton growers who may wish to read it during the winter and be ready to put the new system into practice next spring. Write to the department for B. P. I. Circular 1130.

Recleaning Tobacco Seed.

In 1910 the botany division of the State Department of Agriculture began the cleaning of tobacco seed for the farmers of the State. That yeor we recleaned enough seed to plant about 300 acres in tobacco. The work has been gradually growing, however, until during the winter and spring of 1914 we recleaned enough tobacco seed to plant over 43,000 acres.

The season for this work is on again and we want to advise the tobacco growers of the State to take advantage of this opportunity, at once, to get their seed cleaned free of charge, as the rush will be on a little later in the season and some will have to be returned uncleaned.

Let us have the tobacco seed at once, therefore, in order that we may serve you to the best advantage. Address the division of botany, State Department of Agriculture, Raleigh, N. C., and put name and address of sender inside the package.

JAS. L. BURGESS.
Agronomist and Botanist.

Even with the greatest care, it is hard to keep the cow stable ventilated as it should be.

Pruning is one of the most neglected practices of good orchard management.

WHY LAND SHOULD BE DRAINED

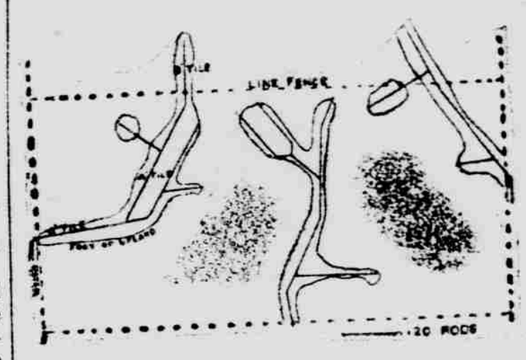
By E. R. Jones.

Of the several conditions which influence the growth of crops none is more important than the amount of water in or on the soil. While water in a thin film around the soil grains is an absolute necessity to plants, an excess is as bad as a deficiency. Too much water is detrimental because:

1. It makes areas so soft that they cannot be cultivated. When these soft places are long and narrow in form, they cut the upland into irregular pieces that can not be cultivated conveniently.

2. It delays cultivation, particularly in the spring.

3. It makes soils cold; (a) because in the spring more than half of the heat that the soil receives is used to warm this unnecessary water; (b) because its evaporation consumes heat that the soil could otherwise retain; (c) because its presence in the soil prevents the entrance and downward movement of rainfall, which in the spring is usually warmer than the soil.



On An 80-Acre Field Three Systems of Tile Drainage Were Necessary This Shows the Advantage With Which Two Neighbors Can Co-operate in Putting in a Line of Tile. An Obstacle So Trival As a Line Fence Should Not Be Permitted to Prevent Economical Drainage. The Owner of This Land Says That Tile Pays for Itself Every Year and That $200 Expended on Tile Has Raised the Value of the 80 Acres $1,000.

4. It crowds out the oxygen from between the soil grains, thus hindering the necessary decomposition of organic matter in the soil.

5. It prevents all crop growth where it stands on the soil to a sufficient depth. Where it stagnates only a few inches from the surface of the soil, it prevents healthy root development below that depth. The shallow root system thus developed limits the depth from which the plant may get water, and with it plant food material.

SOME GOOD FARMING.

Chatham Record.

We are pleased to note anything that will tend to encourage our farmers in raising better crops and improving their land. We mentioned week before last that Mr. James O. Brown, who lives about three miles south of this place, had raised this year 153 bushels of corn on one acre and a quarter, and, in order to encourage others to do as well, we have learned from him how he succeeded so well. He says that this big yield of corn was made on land that he bought ten years ago at $3.50 an acre, and was then considered worn out.

His method of cultivating this land for this unusual yield was as follows: In September of last year he broke the land twelve inches deep and sowed it in annual clover, which he mowed off last May, he broad-casted with home-made manure, then broke it, and when planting the corn on the 20th of last June he used $9 worth of fertilizer. His total expense of cultivating this crop was only $7.50, this including his labor and that of his team. What Mr. Brown has done on this apparently worn out land others ought to do, especially on land that is considered so much more productive.

Mr. Brown is successful not only in cultivating corn but other crops. Two years ago he began cultivating tobacco on three acres, which averaged $125 an acre. Last year he cultivated four acres and made $200 an acre, and this year he cultivated three acres (because it was so dry last spring it was difficult to get a stand) and this crop has averaged him about $140 an acre. Such farming would soon drive away the "hard times."

Of course Mr. Brown raises all his own wheat and a good deal for sale. Last year on one acre he raised forty bushels, and his entire crop of 237 bushels averaged 22 bushels to the acre. He also raised about 400 bushels of oats. He raises not only all the meat he uses but sells every year a good deal of bacon, and now he has a herd of twenty cattle. In addition to raising all his pork and beef Mr. Brown raises quite a lot of poultry, and week before last carried to Durham a load of 27 turkeys, for which he got a nice sum of money. If we had more farmers like him the low price of cotton would not depress business or worry them much.

All this good farming is done without hired help, as Mr. Brown and his two sons (both under age) do all the work on the farm, not having paid out as much as $10 for hired labor in three years.

We commend the example of this successful farmer to all the farmers of Chatham with the hope that some of them may try to do as well as he has done.

STARTING PARCEL POST MARKET FOR EGGS

Farmers' Bulletin Telling How Can Be Secured.

There are in our cities and towns many housewives who would be glad to make arrangements for receiving a supply of fresh eggs direct from the farm throughout the year, says the weekly news letter of the United States Department of Agriculture.

Just at this time, when eggs are scarce and the demand far exceeds the supply of newly laid eggs, there is a good opportunity for the farmer, even though he has but few eggs to market, to make contract with some city or town family to supply them with eggs. The farmer's supply at the present time will not be great enough, possibly, to satisfy the demand of the city family, but if the matter is explained it will be easy to make arrangements to market eggs by parcel post now and continue to do so throughout the year. In other words, it will be much easier to make arrangements to ship eggs now, when everybody wants them, than to do so in the spring, when they are in abundant supply and when the housewife can secure good, fresh eggs in the market anywhere at a nominal price. A satisfied winter customer can be made a profitable all-year customer if proper price adjustments are made when eggs again become plentiful. (Farmers' Bulletin 594, "Shipping Eggs by Parcel Post," can be obtained from the division of publications, U. S. Department of Agriculture, Washington, D. C.)

Once having secured a parcel-post market for eggs, it will be very easy to market many other things by the same method, such as butter, poultry, fresh and cured meats, sausage, fruits, vegetables, honey, and so on.

HOW LONG WILL WAR LAST?

Fatigue of the Machine May Hasten Close of European Struggle.

Scientific American.

This is very largely a machine-made war, and it would be a curious and not altogether illogical denouement of the great struggle if its end should be hastened through the fatigue of the machine rather than the exhaustion of the man.

This war is being fought with the gun and the motor car; and so strenuous and uninterrupted has been the struggle that these have been put to a test of endurance the like of which has never been witnessed in the history of artillery or the briefer but very strenuous history of the gasoline car.

The life of the gun, so far as its absolute destruction by bursting is concerned, is practically unlimited; but not so its accuracy life. Every time a gun is fired some of the interior surface of its bore and delicate rifling is wiped away, and a certain degree of its accuracy is lost. This is true of the shoulder rifle, with its bore so small that it would not much more than admit a lead pencil, no less than of the great sixteen-inch siege gun of the Germans. Fortunately for the infantryman, the wearing out of the bore decreases rapidly with a decrease in the size of the bore. Erosion, as it is called by the artillerymen, is greatest in the large guns and least in the 0.30 rifle. The big guns which form the main batteries of our warships and are emplaced in our coast fortifications can fire from 110 to 250 rounds (dependent upon the pressure and heat in the powder chamber) before they begin to lose their accuracy.

The motor car is a highly developed machine, which calls for careful upkeep to maintain it in full efficiency. In ordinary commercial service the motor car and the automobile receive as a rule, considerable care and watchful maintenance. In the present war, however, the treatment of these vehicles must, in the nature of things, be absolutely brutal, and the depreciation must be very rapid. Where are the repair shops that can keep pace with this depreciation, and how shall the necessarily enormous wastage of the war be made good?

It may well be that the fatigue of the machine rather than the weariness of the man will hasten the close of the present war.

Potato Hill Philosophy.

From E. W. Howe's Monthly.

Compliments are intended for young and beautiful women, but elderly women take them.

A man possibly has a right to like ragtime, but he should not boast about it.

When the authority for a statement is "They say" it is pretty safe to bet that "they" are lying again.

The "good fellow" nearly always has a leaning toward dissipation; if it isn't whiskey it is beefsteak or chorus girls.

Some tomboys become excellent women, but sissyboys rarely become nice men.

I have noticed that a man who does not fool himself seldom cares much about fooling others. But the man who claims to have seen a ghost wants everybody else to believe in ghosts.

War is the same thing, on a larger scale, as a political campaign wherein men quit their work and march and cheer at the behest of selfish leaders.

Eight women have been appointed recently to act as field deputies in the assessor's office in Los Angeles, Cal.