

**IMPORTANCE OF INOCULATION OF ALFALFA**



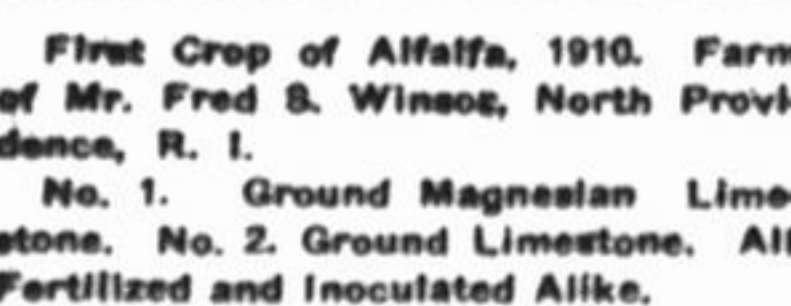
Alfalfa Field of Mr. George S. Baker, Providence, R. I. Inoculated.

(By J. M. WESTGATE.)  
Throughout the western half of the United States the soil appears to be naturally supplied with the proper bacteria for the formation of the root tubercles. In the eastern part of the country, however, where the soil conditions are less favorable to the growth of these bacteria, it is nearly always necessary to supply them at the time of seeding. This inoculation may be supplied either by scattering soil from a successful alfalfa field or in the form of artificial cultures.

Although possessed of some disadvantages, inoculation by means of soil from a successful alfalfa field will nearly always produce the desired results. It is essential that care be taken to avoid the introduction of seeds of noxious weeds or harmful plant diseases. The bulkiness of the soil necessary for the inoculation of an acre makes it advisable to secure the soil from a field as near by as possible.

It has been found that soil from around the roots of the sweet clover is quite as effective as alfalfa soil. In most sections of the country this plant may be found growing wild in scattered clumps. In the south, where burr clover occurs, soil from around its roots may be used with good results. The soil may be mixed with the seed and sown with it. It may also be drilled or broadcasted separately. If broadcasted, the soil should be scattered on a cloudy day or toward evening and immediately harrowed in, as sunshine is harmful to the germs.

If the soil has to be freighted considerable distances, it is usually advisable to use but 200 or 300 pounds of soil per acre, but this should be mixed with several times its weight of ordinary soil to facilitate even scattering. If the soil is difficult to secure, it may



First Crop of Alfalfa, 1910. Farm of Mr. Fred S. Wines, North Providence, R. I.

No. 1. Ground Magnesian Limestone. No. 2. Ground Limestone. All Fertilized and Inoculated Alike.

be best to seed a very small area the first season, taking special precautions to have it thoroughly inoculated. This will then furnish an abundance of soil for inoculating a larger area the following season.

It cannot be urged too strongly that inoculation is absolutely essential to the successful production of alfalfa. There are very few soils outside the alfalfa districts that do not require inoculation, and it may be taken as a general rule that all other soils must have the inoculation supplied in order to grow alfalfa successfully. A few soils, however, especially those upon which sweet clover grows naturally, seem able to produce successful stands without artificial inoculation. These, however, are the exception rather than the rule.

The advantages of artificial cultures lie in the greater ease of transportation and application as well as in the absence of the danger of introducing plant diseases or harmful weeds. Inoculation produced by the cultures, in case it is successful, seems to be in every way as efficient as when the soil method is used. Fewer failures are reported in the case of the soil-transfer method, however.

It has been found that success is more apt to follow inoculation with pure cultures if the seed is sown immediately after the seed has been dried after having been inoculated. There is some evidence accumulating to indicate that the germs in the pure cultures when they do arrive are superior to those normally found in the alfalfa soil. It is suggested therefore, that both the soil-transfer method and the artificial cultures be used.

If seeded in the late summer or early autumn, alfalfa will require no treatment that autumn unless a growth of more than 12 inches is made before cold weather. If this occurs, the plants should be clipped so that they will go into the winter with 8 or 10 inches of growth. In the spring they will be well able to withstand the winter and will be in excellent shape to renew their growth the following spring. The first cutting of hay should be secured in the late spring.

On the other hand, the seed has been known to be the late fall or in the winter. This means that a clipping should be made in the late spring or early summer. These clippings should be

made preferably when the basal shoots start and should be made 3 or 4 inches high, as the plants will be slow in recovering if cut too low. It may be necessary to cut at some other time than the ideal time indicated, as, for instance, when the weeds threaten to choke out the young plants, when the blossoms appear, or when the plants begin to turn yellow. Except in the latter case the clippings are usually left on the ground as mulch. If the plants have turned yellow owing to some disease, the clippings should be raked up and removed. A top dressing of nitrate of soda will sometimes invigorate the diseased plants. The same statements govern subsequent cuttings the first summer—except that the growth is usually too heavy to be left on the field.

Ordinarily no treatment is required during the second season, except to cut the hay when the plants are about one-tenth in bloom, or, better, when the new crown or basal shoots are starting. It is important to get the hay off the field as soon as possible, in order to allow the new growth to commence uniformly over the field. If the windrows or cocks are allowed to remain too long on the ground, the alfalfa plants will be smothered out and then bare spaces will form the centers from which weeds will spread.

No pasturing should be allowed during the first or second seasons, as the crows have not become sufficiently well developed to withstand the effect of trampling. About three-fourths of a full crop may be expected the next season after late summer seeding in the humid regions. Nearly a full crop is usual the second season after spring seeding if the weeds of the first summer have not seriously injured the stand.

As long as an alfalfa field shows a perfect stand, with no tendency to run to weeds, it is not customary to give the field any special treatment. If the weeds begin to prove troublesome, it is advisable to disc the alfalfa after cutting. This process loosens up the soil and aerates it, which is decidedly advantageous to the alfalfa. The tap-roots of the alfalfa plants are not usually injured by this practice if the discs are set nearly straight, while the weeds are to a great extent destroyed. A spike-toothed harrow may follow the disc to level the ground.

**SPRAY POTATOES TO DESTROY BUGS**

To Be Made Effectual It Must Be Done When Plants Are Eight or Ten Inches High.

(By W. M. KELLEY.)  
When the broods are first appearing is the time to get after the potato bugs. The best known remedy is paris green.

To one barrel of water use three-quarters of a pound of paris green and to this add about one gallon of strong lime water. This will prevent the burning of the foliage by the paris green being too strong and will also make it adhere to the leaves better. Keep the contents of the barrel well stirred while the machine is in motion.

One barrel is sufficient for about two acres of potatoes. My experience with spraying as a preventative of blight has convinced me that we should begin early before the disease has appeared. Some potato growers who are the most ready to condemn spraying wait until the disease gets a foothold and try to cure it with a strong bordeaux mixture.

I believe that if spraying is to be made effectual it must be commenced when the plants are eight or ten inches high and be continued at frequent intervals during the whole of the growing season. I have every faith in spraying as a preventative of the blight, but no faith in its application as a cure after the disease has developed.

Bugs may be held in check by the use of the poison in the bordeaux mixture, and when we consider this advantage it is plain to see that the cost of the applied fungicide is very much lessened.

**Cull Out Boarders.**  
Weed out the old hens and fatten them for market as soon as they begin to drop off in egg production. They will sell for a good price soon and the pullets will be more profitable for egg production.

**Poor Stand of Cows.**  
There are two ways of getting a poor stand of cows. One is to get the cow in the late spring or early summer and the other is to get the cow in the late fall or in the winter.

**POULTRY NOTES**  
BY C. M. BARNITZ  
RIVERSIDE PA.  
CORRESPONDENCE SOLICITED

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**THE DUCK EGG.**  
In England, in school, a cipher is called a duck egg as much as to say that a duck egg amounts to nothing, but in many parts of the old world, Holland and China in particular, the duck egg is an important part of the diet, and millions of ducks are kept not just to get eggs to hatch ducklings, but to lay eggs for the table and trade.

In America the duck egg is fast gaining in popularity. The old prejudice



Photo by C. M. Barnitz. A PEKING TRIO.

that they are strong in flavor dying out with the advent of the up to date duck egg.

That early duck egg, when streams abounded in fish and other life, was not a delectable epicurean morsel for the ancient quack waddled where its fishy fancy led and feasted all day on tadpoles, mullets and water skippers, and both the duck and its product had a fishy taste that wouldn't come off.

But the day of the puddle duck is past, and even the day of the green shell duck egg is passing for, though the color of the shell has naught to do with the smell, the duck that lays the popular white shell egg is here and these eggs are gaining in the markets right along, and especially in the cities where middlemen are glad to pay a premium on them to serve to their high class Hebrew trade, and the res-

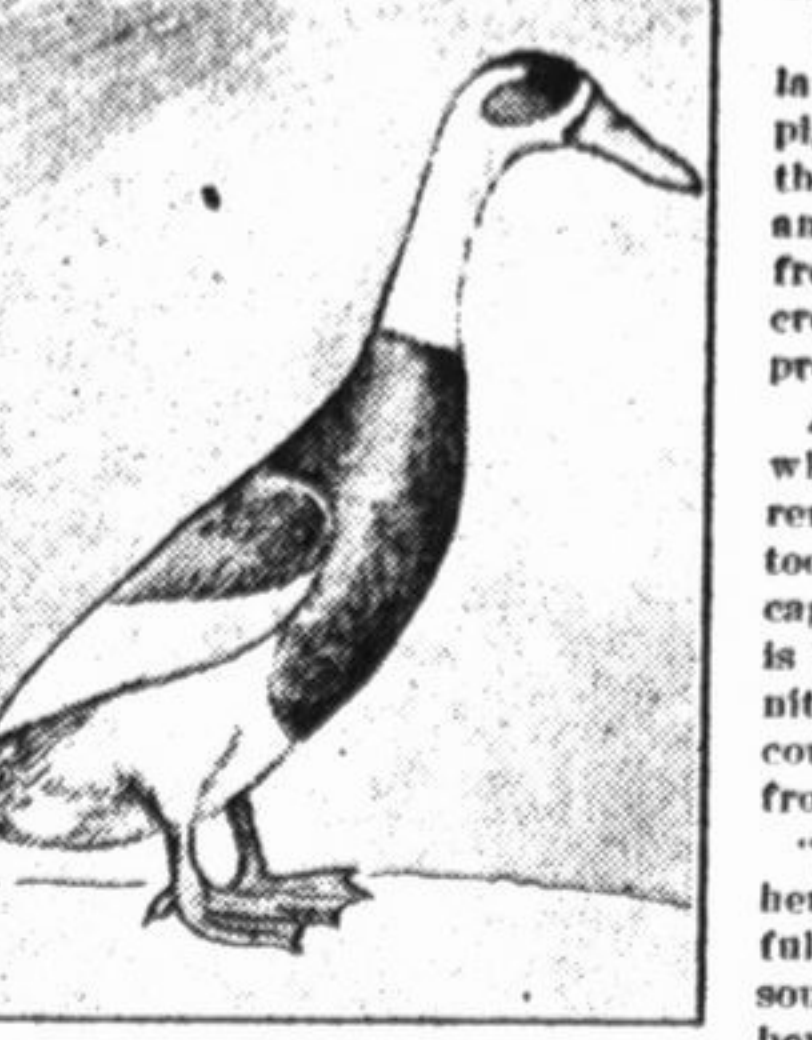


Photo by C. M. Barnitz.

**INDIAN RUNNER, CHAMPION LAYING DUCK** so few are seen is because these Jews gobble them before other people have a chance.

The Peking and Indian Runner are the prolific laying ducks, but the Indian Runner is well termed the "Leg-horn of the Duck Family," and we have seen them in a test with White Leghorns surpass these, the egg machine of the hen tribes.

The Runners are an excellent table duck, but their eggs, much like the fancy Minorca, are par excellence, and we advise any who have that old prejudice against duck eggs to try a few from a pen of Runners, bred, fed and kept on the up to date plan.

The prejudice will vanish almost as quick as that savory golden yolk and delicious silvery white.

**DON'TS.**  
Don't expect to raise turkeys on the canary bird plan. Let them roam; they'll come home.

Don't use much grease on young stock for lice. Persian insect powder is better.

Don't parade as a wise guy. If you think you're smart go tell it to Sweeney.

Don't start any branch of poultry culture wholesale unless you first master the detail.

Don't growl about your work. Hustle. Don't expect chicks to be free from gaps if they run on rank ground.

Don't let your back yard grow weeds to seed the neighborhood.

Don't let jealousy make you miserly and destroy your friendships.

**MY BULLY VACATION.**  
My vacation? You bet I have had it! Why, no, I didn't go away To the mountains way up in New Hampshire Nor down to stylish Cape May.  
You know I had the dyspepsia, So I shipped my wife to the sea, And I packed my duds in a suit case And pulled for the farm country.  
I worked in the fields in the sunshine, I chopped wood out in the shed, I mowed the grass in the meadow And pitched big sheaves overhead.  
And soon I could eat like a grubber, Why, the grub just slid out of sight! I was up in the morn with the robins And slept like a rock all night.  
I've lost every trace of dyspepsia, But my wife got it down at the shore, And it cost her five hundred dollars, The Jimjams, you bet, and some more. C. M. BARNITZ.

**THE POULTRY DOCTOR SAYS—**  
Applying kerosene undiluted for lice is cruel and only kills the bugs which it touches or in close contact to the fumes. It blisters the skin, stops laying and often kills or spoils the bird for breeding.  
Gasoline alone should not be applied either, as it is apt to asphyxiate the fowl, and both kerosene and gasoline in pure form are too expensive and impracticable for such work and a poor substitute for dust or louse powder, the form in which nature prescribes crawler quietus.

Cottonseed meal is a mighty poor substitute for beef scrap for feeding fowls, as it invariably causes intestinal disorders. Much of the so called beef scrap on the market also should be handled with care, and the presence of that fertilizer smell should be a quick argument for its return to the shipper or consignment to the dump. The best and safest meat food is green cut bone, but where fowls have good summer range they get enough protein in the bugs and worms and clover they pick up.

Carelessness in disposing of dead fowls is one cause of disease and death among fowls in summer. A neighbor lost sixteen fine hens because a dog dragged another neighbor's dead fowl within reach of her chickens. A decaying carcass often kills off a flock of chicks which feast on it. People who allow filth to accumulate on their premises or carcasses there to rotify are a menace to the community and belong to the bughouse period of the stone age.

Many chicks find their early demise in certain commercial chick feeds that are so highly advertised for their freshness and protein content when they are mostly made up of moldy cracked corn, dust, grit, stale grain, weed seeds and old garden seed from a previous season.

The wise poultryman examines his feeds closely, and when he finds a bad lot sends samples to the state department, where a department exists for the analysis of feeds and the detection and prosecution of feed dopers.

**FEATHERS AND EGGSHELLS.**  
The parcel post will be a great factor in bringing about a law for the selling of eggs by weight in states where the law is not yet in force. Selling eggs by the dozen is just as much out of date as trading turkeys for glass beads.

If you are exporting Moulains to get large size the French strains of these pigeons are largest and breed a squab that at four weeks reaches one to one and a half pounds. Moulains are very free feeders and fast breeders and, crossed with Runts and Maltese hens, prove very satisfactory.

An American at a banquet in London while making a speech about motoring remarked: "In London they give two toots before they kill a man. In Chicago they only give one toot, and that is far too short a preparation for eternity." The old farm hen crossing the country road doesn't even get one toot from the city joy rider.

"Lady Show You," the White Rock hen that smashed records by laying 284 full weight eggs in a year at the Missouri egg laying contest, was sold by her owner for the tidy little sum of \$800.

Fussy hens with chicks are a nuisance. They not only make the chicks afraid of you, but always go where you don't want them to, fight with the other broodies, skin any strange chicks that come near and generally butcher part of their own brood by their rough house.

Many buying their first incubators secure too large a machine; others buy an incubator that is too small for practical purposes. We advise the 150 egg size for a starter. It's about right for the medium sized flock, is easily controlled and is a size that sells quick second hand.

A Wilkesbarre (Pa.) attorney, while visiting Carlisle, Pa., was so attracted by a fine Plymouth Rock rooster that he went broke to buy him. He later carried the bird to a pawnbroker and pawned him for ticket money to get home. He was a young and inexperienced lawyer or he would have selected a fat goose.

A bill was recently defeated in the New Jersey senate requiring that owners of cats pay a license of \$1 for each feline or give up their cats for ruthless slaughter. The Audubon society backed the bill, and the funny thing about it is many of its members are old maids, but perhaps the Jersey branch is not of the cat nursing single sorority. We claim that cats catch few birds or chicks when fed a portion of meat, but so many poor Tabbies are half starved, and they must grab what's handy or suffer nine horrible deaths.

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