

Deep Cultivation Harmful to Corn

Top Three Inches of Soil Contain Largest Amount of Plant Food.

(Prepared by the United States Department of Agriculture.)

The ka-lick, ka-lick, of the corn planter has ceased its musical tattoo for the season and has been backed into the shed. If there were no weed seeds just under the surface of the soil lying in wait for favorable germinating conditions, the farmer's work in the cornfield would be done for the summer. If there were no weeds there would be no need to tune up the old cultivator or cut a forked stick. The crop would not again need his attention until corn-picking time in the fall. He could turn his attention to other work about the farm, or he could cut himself a pole and go fishing, whichever was according to his individual bent—and his cornfield would still yield as many bushels of corn as it would have had given it the traditional three times over with corn plow.

Cultivation Controls Weeds.

At least some such conclusion might be arrived at from a study of the results of various tests by corn cultivators to determine the real reason for cultivating corn. Cultivation, they agree, is chiefly for the purpose of controlling the weeds. In fact, weed eradication may be the only beneficial result from cultivation after planting.

Nevertheless, there is that big little word "if" to reckon with. We do have weed seeds and we will have weeds. Soon the broad clean spaces between the rows of young corn will be covered with a mass of green weeds of every description. The cultivators will be unlimbered in feverish haste to attack the weeds and hold them in check while the corn gets the jump on them. But that is where the similarity of the operation ceases. One farmer will set his shovels to plow as deeply as possible. He will hurry across the field so that he can start his plow on the cross rows—the main idea apparently being simply to get over the field three times before the corn is knee high and ready to lay by. He believes that the formation of a dust mulch to retain moisture is also a thing to accomplish.

Must Keep Weeds Down.

As long as there are weeds, some sort of method will have to be used to keep them down. Rotating crops, preventing weeds going to seed, and sowing seed that is free from weed seed, are some of the other principles that will help to keep down weeds. An understanding of the fact that cultivation is principally for the purpose of killing the weeds and not to stir the soil or provide a dust mulch, however, will modify methods of cultivation.

Thirty-six years ago the Illinois experiment station made some tests in which it was shown that if weeds were kept down by scraping with a hoe without any attempt at forming a dirt mulch, the yield was the same as with ordinary deep cultivation, and only slightly less than with ordinary shallow cultivation.

Twenty years ago the United States Department of Agriculture made similar tests at a number of stations over the country and obtained similar results.

Now the Illinois station has secured some more figures which further substantiate the former tests. As an average of 24 years of experiments at that station it was found that a field of corn in which the weeds were removed by scraping them off with a hoe gave a yield almost exactly the same as a field cultivated with a surface cultivator. Deep cultivation gave a yield of one to two bushels less on the average than either shallow cultivation or scraping with a hoe. Many deep cultivations decreased the yield further.

Deep Cultivation Harmful.

These experiments indicate clearly that the deep cultivation is harmful. Cultivation should be as shallow as possible, although deep stirring is less injurious at the first cultivation than later. The feeder roots of the corn plant leave the stalk about two inches below the surface of the soil no matter how deep the grain has been planted. Plowing close to the stalk and deeper than these roots injures many of these roots and results in decreased yields.

It appears, says the United States Department of Agriculture, that the top three inches of soil contains more available plant food than that further down and that it is of more value as a feeding ground for corn roots than as a mulch.

Cultivation that mutilates this mass of roots in the top soil not only removes the connection of the corn plant with this rich source of plant food but destroys its natural water-gathering system.

From the great number of experimental studies that have been made it would seem in the corn belt is to kill weeds as economically and as easily as possible without plowing so deep as to do harm to the plant in any way and without making the surface soil unavailable to the roots for feeding purposes. Some of our present implements for cultivation are designed primarily to produce a mulch and stir the ground. There are many, however, that have been designed with special reference to weed control, such as the weeder, the spring-tooth harrow, and the surface cultivator. Local conditions will determine which of these can be used to the best advantage.

Select Right Paint for Each Farm Job

Best Way to Preserve Buildings and Implements.

(Prepared by the United States Department of Agriculture.)

Painting improves appearance, but the chief purpose of painting on the farm is to preserve buildings, fences, and implements from the effects of the weather. Interior painting is usually done to make the home more attractive, but it also serves a useful purpose in making walls and ceilings more sanitary and dark rooms lighter. Painting at regular intervals, says the United States Department of Agriculture, is the cheapest way to keep buildings and implements in good condition.

A knowledge of the different kinds of paint and their particular adaptability is a great advantage to the farmer who wishes to do his own work. The department has published Farmers' Bulletin 1452 for the express purpose of helping the farmer to select the right paint for the particular job at hand. It gives directions for mixing paint, for preparing surfaces, and for applying the paint. Full directions for making and applying several kinds of whitewash are included also.

Painting should not be put off too long. If wood has begun to rot or iron has begun to rust, the rotting and rusting will continue after the paint has been applied. Moreover, the longer painting is delayed, the more difficult and expensive it becomes.

A copy of the bulletin may be had free of charge, as long as the supply lasts, upon request to the United States Department of Agriculture, Washington, D. C.

Marketing Poultry and Eggs Is Important Job

"The time has come when serious thought is being given not only to the production of poultry and eggs, but also to the marketing of these products." So declares the poultry and egg marketing department of the Illinois Agricultural Association, F. A. Gouger, director.

"The states of Iowa, Illinois, Indiana, Ohio, Missouri, Pennsylvania, Minnesota, Wisconsin, Michigan and Kansas together sell about 85,000,000 dozen eggs each year. This amounts to 28,000,000 cases or 70,000 carloads. And if we add to the value of the eggs sold from these states each year, the value of the poultry sold, we have no less than \$295,970,472."

Marketing of this large quantity is as important a problem as producing it, says the association. "Both producers and distributors of eggs and poultry products are concerned with the best method of moving this produce from producer to consumer, so that the spread between producer and consumer is reduced to a minimum."

"It is estimated that the annual loss in the United States in marketing our egg crop ranges from \$40,000,000 to \$50,000,000 and those responsible for this loss are everyone who has anything to do with eggs from the farms to the consumers. The trouble is due largely to the fact that eggs are not bought on the basis of grade direct from the producers."

Most Opportune Time to Cut Soy Beans for Hay

"Soy beans may be cut for hay at any time between the full bloom stage, which usually comes between July 15 and August 15, and the stage when the leaves begin to turn yellow, some four to six weeks later," says C. J. Willard, of the Ohio experiment station.

"Yield, ease of curing and quality of hay will mainly determine the time to cut. The largest yield obtainable at one cutting is secured by cutting when about one-fourth of the leaves are yellow. In one typical test at the university, these were the results:

"When cut July 25, at full bloom, yield was 3,700 pounds an acre; cut August 8, with pods well formed, 5,700 pounds an acre; cut August 29, with beans half grown, 6,500 pounds an acre; cut September 12, with one-fourth of the leaves yellow, 7,400 pounds an acre."

FARM FACTS

Do you need any new castings for the binder?

Hot weather cuts the milk flow, but poor feed cuts it even more.

For fine leafy alfalfa, most farmers should cut when it is about one-tenth in bloom.

The hen is the most efficient of farm animals in producing food, states an Ohio university authority.

It has been said that there is no gain without a loss. In other words, gain alfalfa and lose despair.

A man who does not keep his live stock well supplied with water is not only a poor farmer; he is a mighty poor kind of man.

For the city man a home garden does more than produce some vegetables for the table; it produces a real appetite to help eat 'em.

Early cut hay is best for dairy cattle. Greater milk production and healthier cattle will result. Clover is best when cut at or just before the full bloom stage.

The KITCHEN CABINET

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Choose what you will, within the limits of reason, and by the exercise of the average ability you possess you will, in time, reach your mark.—Marden

SPINACH DISHES

Spinach needs good seasoning and care in serving if you must teach your family to like it, as most of us do. Being such a worth-while vegetable, so good for the blood, being rich in iron, it is learned ways of serving it in the most attractive manner.

Spinach With Stuffed Pimientos.—Arrange six pimientos in well-buttered ramekin dishes. Take one and one-half cups of cooked spinach, two tablespoons of lemon juice, one-half teaspoonful of salt, one egg, one-half teaspoonful of grated nutmeg, two tablespoons of butter and one-half cupful of bread crumbs. Mix the stuffing and fill peppers, cover with buttered crumbs and bake in a hot oven.

Bohemian Spinach.—Take six strips of bacon, three-fourths of a cupful of cooked spinach, one-half teaspoonful of salt, two eggs, three-fourths of a cupful of milk, one-half cupful of bread crumbs. Curl the bacon inside of six ramekins. Chop the spinach, add seasonings and beaten eggs, milk and crumbs. Pour the mixture into the ramekins and bake until firm. The bacon if partly cooked will be more satisfactory. If it is not sufficiently cooked, turn the molds out onto a baking dish and bake in a hot oven.

Spinach and Noodles.—Take one and one-half cups of noodles cooked, one and one-half cups of cooked chopped spinach, one cupful of grated cheese, one teaspoonful of salt, one-fourth teaspoonful of pepper and one cupful of milk. Put alternate layers of spinach and noodles in a baking dish, sprinkle with cheese and season over each layer and top with noodles. Pour over the milk and bake forty-five minutes.

Spinach Croquettes.—Take one cupful each of chopped ham and spinach, one tablespoonful of prepared mustard, one-half cupful of boiled rice, one egg yolk, one-fourth of a cupful of spinach liquor. Mix all the ingredients and moisten with the stock. Shape into croquettes, dip into egg and crumbs. Serve with tomato sauce.

Spinach With Buttered Crumbs.—Put the well-washed spinach into a kettle, adding no water; cook carefully, stirring occasionally for the first few minutes, then cover and cook until tender. Serve seasoned with butter and sprinkled with buttered crumbs.

Stuffed baker fish is one of the favorite ways of serving the large lake trout.

Savory Dishes.

Don't fail to learn a few of the kinds of field mushrooms. There are so many savory dishes to which a few mushrooms will add flavor.

Scrambled Eggs and Mushrooms.—Break into small pieces one pint of fresh field mushrooms. Sprinkle with salt and let them stand twenty minutes. Into a saucepan place two tablespoons of butter, add the mushrooms and juice, cover and cook eight minutes after they commence to simmer. Season with pepper and more salt if needed. Add the yolks of five eggs, beaten slightly, to the mushrooms. Stir until the eggs are cooked, adding more butter. Serve on buttered toast.

Curried Eggs.—Take six hard-cooked eggs. Peel three large onions and cut them into thin slices, put them with two tablespoons of butter in a saucepan to cook until soft. Add a tablespoonful of curry powder, one clove of garlic, one-fourth of a teaspoonful of ginger, one-half teaspoonful of salt, one tablespoonful of flour, one-half pint of stock, cool. Take three cups of cooked rice, place around the edge of a platter, cut eggs into slices and place over the rice; over this pour the sauce, very hot. Garnish with green pepper or sprigs of parsley.

Coconut Pie.—Line a deep pie plate with rich pastry and let stand in the ice chest for an hour. Beat four eggs, one-half cupful of sugar, the rind of a lemon and add two cupfuls of milk. Sprinkle the top with a cupful of grated coconut. Bake in a moderate oven one hour.

Rhubarb de Luxe.—Take four cupfuls of rhubarb cut into small pieces, two cupfuls of granulated sugar, one-half teaspoonful of mace, one-fourth teaspoonful of cinnamon, twelve whole cloves, one large orange. Place the ingredients together in a well-buttered casserole, adding the rind, juice and pulp of an orange. Cover and bake until the rhubarb is tender. If very juicy, uncover the last fifteen minutes of cooking.

Crackerjack.—Take one cupful each of brown sugar and extracted honey, boil until it hardens in cold water. Remove from the fire, add one-half teaspoonful of soda and all the popcorn or puffed rice or wheat you can stir in. Add a few shelled peanuts and press into a well-greased dripping pan. Mark off into squares.

Nellie Maxwell

KNITTED FULL LENGTH COATS; PARIS MODES FOR YOUNG GIRLS

THE knitted coat's the thing! One cannot look upon the handsome models which grace this season's showings without realizing that the knitted coat by virtue of its chic, charm and practicality is destined to play a most important part in fashionable life. Not that the full-length knitted coat ever failed of fascinating appeal, even from the days of its initial appearance but somehow heretofore we were prone to classify it rather as a passing fad or fancy, rather than a staple fashion. Not so from now on, for this season's models prove conclusively that the knitted coat has earned

widens steadily as the years carry her into young girlhood. In the early teens she is always simply dressed, but much attention is given to details of finish and style in all that she wears. In many particulars—as in color and decoration—her belongings are made to follow the lead of the modes for grown ups.

Paris sends over drawings of two costumes for young girls in the first half of their teens, as shown in the illustration. In the figure at the left the young miss is thoughtfully regarding an embroidery in colors which brightens her three-piece costume of



LAST WORD IN KNITTED COAT FASHIONS

for itself a definite place in the field of stylish and practical wraps.

A model which bespeaks the last word in knitted coat fashions is pictured here. It is knitted of coral in an intriguing stitch, with cuffs, patch pockets and revers in frost gray. That smart tailored appearance, which is so necessary according to style requirements, characterizes this coat in every detail.

The midsummer collection of knitted coats accents the pastel shades. Frequently looped wool describes a smart embellishment in collar, cuffs and sometimes hem-border.

Most of the lightweight models are constructed of soft wool with rayon interknit either in attractive stitch, as

ten kasha. It has quite a grown-up appearance for a girl of thirteen, but the embroidery is in a simple pattern and might be in any bright color. The skirt is lengthened a little for each year up to sixteen.

At the right a coat in pastel-green kasha is lined with printed silk in any harmonizing colors one may choose, and may be worn over a matching dress or with other dresses. The use of kasha cloth and printed silk lining modestly acknowledges the lead of the mode; and the coat is very carefully tailored. Man'selle is much dressed up in these costumes and they will remind her to deport herself with dignity—in order to match their style.

In party dresses the young miss is allowed to shine in filmy fabrics and



SHOWING COAT AND PARTY DRESS

instanced in this illustration, or defining self-toned block patternings or jacquard effects. The straightline wrap-around mode, fastening with a decorative button are preferred.

For wear over lingerie and sheer frocks these knitted coats are entrancing. The colors which glorify them contribute a summer loveliness to the costume. The all-white knitted wrap leads, perhaps, in popularity although the competition is keen among such lovely shades as lilac green, pink to deep rose, powder blue, lariat and gay yellow. Double-breasted coats of two-toned mottled jersey are a fall item. Before the Hittest Parisienne is conscious of her clothes she is clad in garments that differ from those of her brothers, and this difference

JULIA BOTTOMLEY.
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Indians Gay in Buckskin Clothes

The annual tanning party held by Flathead Indians on the western boundary of Glacier National park has become a holiday event. The braves having "brought down" the animals with unerring "gun barrel sight" only have to "look" after the paposes and children, while the squaws transform the hairy pelts into material for shelter and raiment—mostly holiday raiment in these modern days, for most of them live in houses and wear woolen clothing in their everyday agricultural life.

The United States Indian department indulges the red man in this custom, for without the finery of beaded buckskin clothes, the gala events on reservations would be robbed of the very background which gives them their impetus.

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On retiring gently rub spots of dandruff and itching with Cuticura Ointment. Next morning shampoo with Cuticura Soap and hot water. Make them your everyday toilet preparations and have a clear skin and soft, white hands.—Advertisement.

Tesla Turns to Mars

Nikola Tesla, the inventor whose work has been very important in the electrical world, has turned his speculations to Mars. He says life on the planet Mars may be from one to ten million years older than on the earth. He also thinks the hope of communicating with the planets is not an idle one, but merely awaits the invention of proper apparatus, based on the earth's frequency of vibration, which he places at 11.77 per second.

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"I was trying to solve a cross-word puzzle and asked him several times to tell me a word of five letters meaning domestic happiness and he couldn't do it."

For economy's sake, why not buy a vermifuge which expels Worms or Tapeworms with a single dose? Dr. Peery's "Dead Shot" does it. 372 Pearl St., N. Y. Adv.

Many a man who is not at all henpecked, likes his wife to appear to boss him in public.

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"Halloo! Why are you rushing about like this?"
"I'm trying to get something for my husband."
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For Bargain Hunters
"Halloo! Why are you rushing about like this?"
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Early Broadcasting — As early as 1896 the capital of Hungary, Budapest, had an organization called "Telefon Hirmondo," which broadcast music, news and whole opera by telephone.

Wireless Torpedo — To counteract the pilotless airplane, an aerial torpedo has been invented. It is claimed that the torpedo can be made to pursue and destroy the pilotless airplane through wireless control.

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