

FARM AND BEES



HONEY BEE CARRIES POLLEN

An Assurance of Crop Depends Upon Insects as Distributors, Apiaries Should Be in Orchards.

(By C. I. LEWIS and C. C. VINCENT.)

It has been a question in the minds of many experimenters for some time just how much the wind aids in carrying pollen from tree to tree. If the wind does aid in distributing pollen, is it distributed in sufficient quantities to insure the fertilization of the ovules?

Since so many of our varieties of apples are known to be self-sterile, and must depend upon foreign pollen for fertilizing the ovules, this question is



Apiaries should be kept in orchards, as the bee is the best agent for cross-pollination.

of serious consequence. Is it the wind or our common honey bee that does the work?

From observations made the past few years it is evident that bees play a most important part in the fertilization of the blossoms. To arrive at some definite conclusions as to how much pollen is transmitted through the air by the wind, experiments have been carried on in several states to determine this question. These experiments demonstrated beyond doubt that plum pollen as well as pollen of several species of apples experimented upon is not transmitted through the air in sufficient quantities to insure cross-pollination. Hence, the wind cannot be relied upon as an agency to transfer pollen from tree to tree throughout the orchard.

That the honey-bee is not attracted to the blossom by the inflorescence has also been shown. It is apparent that the snowy petals of the blossoms aid materially in attracting the bee.

The blossom is well supplied with nectar, and the open character of the nectary makes it accessible to almost all insects. The bees, in trying to reach the nectar, brush against the anthers and carry away with them on their hairy legs and abdomen large quantities of pollen. The insects in visiting other blossoms transfer some of the foreign pollen to these pistils. Since the wind aids so little in cross-pollination, it is evident that the various insects, especially the bees, are carriers of pollen.

As the assurance of a crop depends upon insects as distributors of the pollen, it is necessary that apiaries be established in the different fruit sections. With favorable climatic conditions and proper planting of varieties the bees would insure pollination.

IMPLEMENT IS EASILY MADE

Not a Difficult Matter to Construct Practical and Cheap Hay Rack—Bolester on Frame.

(By J. W. GRIFFIN.)

A practical and cheap hay rack may be made very simply.

The bed frame is 15 feet long, the rear end is 2 feet 6 inches wide, and the front 1 foot 8 inches wide. Being narrow in front permits of the wagon being turned in a smaller place.

There is a bolster made on the frame. When the rack is to be used on the wagon, remove the bolster from the wagon and let the one made on the frame take its place.

The side rails are made of 2 1/2 inch stuff. The cross-pieces are 1 1/2 inches and 6 feet 6 inches long. The two boards that form the bows that



Inexpensive Hay Rack.

protect the wheels are made of 1 1/2 inch elm, or some wood that is tough and will not break in bending.

The frame is put together with 1/2 inch bolts, assorted lengths to suit the different thicknesses of material.

The knees that support the front cross-pieces are 1 foot tall, without the knees, these are 6 inches on the lower end and 2 on the upper. If well put together out of good materials, and painted, and well taken care of, this frame will last for 20 years.

Value of Silos.

The small silo is more expensive in proportion to its capacity. A silo should be not less than ten feet in diameter. The height should be at least 20 feet. The silo should be built on a good foundation. The silage should be made in the summer. The silage should be made in the summer. The silage should be made in the summer.

ITALIAN BEES ARE THE BEST

Abundant Evidence That Long-Tongued Insects Do More Work on Red Clover Than Others.

There seems to be abundant evidence that the Italian bees do work more upon red clover than the black bees, and therefore that they do have longer tongues. The project of breeding long-tongued bees that can reach any or all of the nectar cells in the red clover does not seem to us impossible when we see what has been accomplished in the line of breeding our domestic animals; our horses for speed or draft, cows for milk, butter or beef, sheep for wool or mutton, and dogs for hunting or other purposes. It is true that in these cases we can control the mating as we cannot that of the queen bee, but when we find colonies that approach the type we want, we can see that only those colonies are allowed to produce drones and queens, cutting out the drone cells from them, and if we allow them to send out a swarm, seeing they are provided with a new queen from the most desirable stock. It may be a work of years, and queens may be, as it is said some have been, sold at \$100 to \$200 each, but men who understand just what they want and work for it usually succeed finally.

POST MAKES A USFUL GATE

Two Sections of Fence Can Be Bent Apart at Top, Making Handy and Convenient Passage.

Here is a fence, horse-high, bull-strong and pig-tight, and without a gate in sight. Yet the man who knows can pass through it easily. The secret rests in a pair of twin posts. Two pieces of strong wood are shod with iron at the bottoms. These iron feet are hinged by being connected with a long iron stake that is driven into the ground and forms the foundation. At the tops of the posts are a hook, and a loop to engage the hook, so that normally the two posts are hooked together and form one rigid upright that holds the wires as taut as they are on the stationary posts that form the rest of the fence. To pass through this novel gate all that is necessary is to



Handy Fence Gate.

unhook the posts and bend them into a V, the hinges at the bottom permitting this. After you step through, hook them up again.

Moisture for Next Year.

Now is the time to think of conserving moisture for the crop next year. If the stubble fields are disked as soon as the grain is cut and capillary is broken, it will be much more difficult for the tons of water stored in the ground by summer rains to evaporate. It will also be found that plowing can be done more easily, and at less expense to horse flesh.

BEES AND FARM NOTES

Baling is the proper treatment for cowpea hay.

The hoe is the certain remedy for the cocklebur pest.

Every farmer should give some attention to hairy vetch.

It takes two years to thoroughly destroy all the cockleburs in any field.

The ground for sweet clover seed should be prepared the same as for alfalfa or clover.

The surest way of getting rid of moles is to set one of the steel spring traps over their runs.

Neither corn nor millets are especially sensitive to acid. They will often do well on soils which are sour.

Grasses, as a rule, require less lime than clovers, but timothy will not do well in soils markedly deficient in lime.

Among plants requiring large amounts of lime in the soil are alfalfa, clovers, peas, beans and vetches.

Many growers say that weeds are as valuable as fertilizers as clover and cowpeas if they are turned under every year.

Cowpeas that have a lot of crabgrass and fox tail mixed with them, make even better bale hay than the straight vines.

Soil taken from a well-established alfalfa field and spread on land to be sown to alfalfa is a very good way to inoculate it.

If there is a telephone line in reach of you, have a phone put in your house. If there is none, get together with your neighbors and build one.

Lime should not be applied immediately preceding a crop of potatoes. They are more likely to be affected with scab should such application be made.

HORTICULTURE

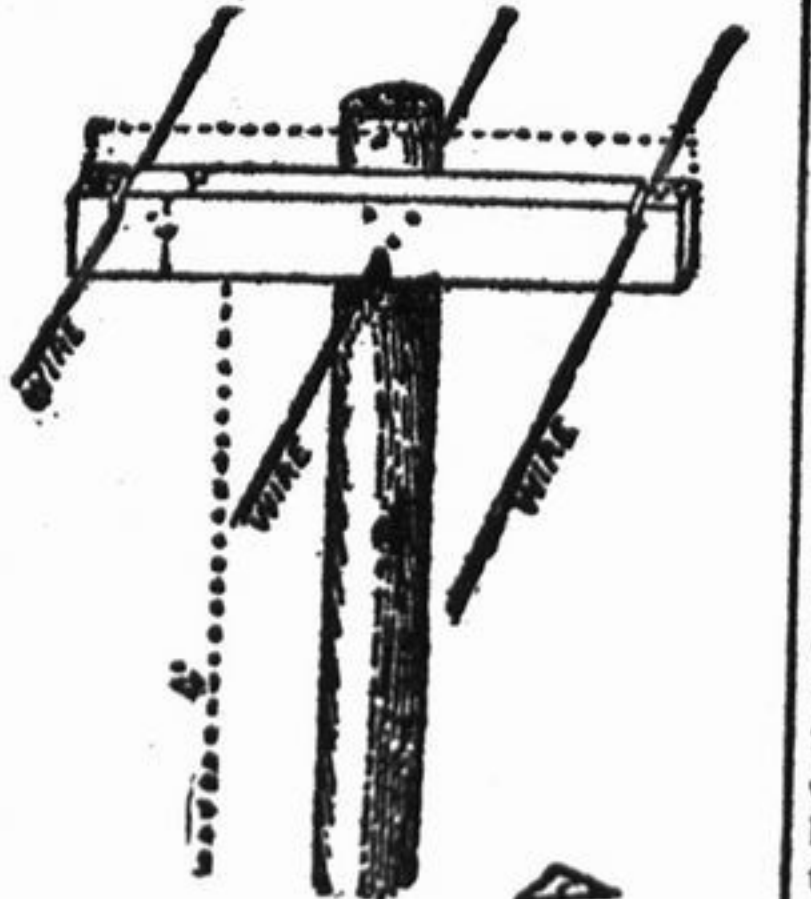


TRELLIS FOR HOME VINEYARD

Contrivance Holds Vine Out of Way of Cultivation and Permits One to Pass Between Rows.

A grapevine trellis described by the Rural New Yorker, from which this cut and description are reproduced, has a middle wire which goes through holes in the posts. The middle slot sets down over the middle wire, while the two outside wires run through slots in the cross arm for two inches from the ends.

The cross arms are 1 by 4 inches for all but end cross arms, which are



Trellis for Grapevine.

2 by 4 inches. The cross arms are nailed to the posts, and should be braced by wire running from the ends of the cross arm, and then down to the post 18 or 20 inches below the arm. The stem of the vine is brought to a height a little above the level of the middle wire and tied to it.

Two canes that develop near this level the present year are left next fall, and next spring are tied to the right and left along this middle wire. Two short spurs are left near this location to furnish bearing wood for the year following, and all else removed. The shoots developing from these grow out and over the outside wires, making a canopy, the fruit hanging in a natural position beneath, and protected from the sun.

This trellis simulates the position of the wild vine more nearly than any other. The growth is out of the way of cultivation, good drainage is insured, and one can pass readily from row to row. This trellis is recommended for the home vineyard. The expense of construction makes it prohibitive commercially except for fancy table varieties.

SELECTION OF ORCHARD SITE

Common Error is to Choose Soil That is Too Rich for Apples—Wood is Not Wanted.

A common mistake in the selection of a site for the apple orchard tract, large or small, is that of choosing a soil that is too rich; that will cause abundant growth of wood, but mighty little fruit. In the valley in which the writer's ranch is located is an orchard of mature apple trees, as pretty a sight from a standpoint of foliage as one could ask to see, which has lately been felled because it did not deliver the goods.

The tract is fat, rich and well watered. Within a gunshot of this tract is a block of winter Nellis pear trees of the same age that for several years past have grossed their owners close to a thousand dollars per acre, says a writer in an exchange. Never was more emphatically demonstrated the fact that soil can be too rich for apples but not for pears. Within a mile of these unproductive apple trees, on thinner and lighter granitic soils, the apple trees bear prolifically to the point of breaking down.

HANDY LITTLE GARDEN TOOL

Implement for Pulverizing Soil Can Be Made of an Old Long-Handled Shovel, as Shown.

A handy garden tool for pulverizing the soil can be made of an old long-handled shovel, as shown, says the Popular Mechanics. Heat the shovel



Earth Pulverizer for Gardeners.

and flatten it out, drill holes about 2 1/2 inches apart and rivet spikes in them. A board with large nails, having a long handle attached will also answer the purpose, but not so well as the shovel.

For Tree Wounds. In California the following mixture was used on trees three years ago and is still in good condition. One part of crude petroleum to three parts of resin; warm in separate dishes, mix and apply warm to cuts made by pruning or by ventilator injury. While this mixture is not better than grafting wax, it is much cheaper and is worthy of trial.

AFTER-CARE OF STRAWBERRY

Special Attention Required for Future Production After the Crop Has Been Gathered.

After a strawberry crop is gathered the plants will require special cultural attention if they are to remain for the production of berries the succeeding year, says Michigan Farmer. The limited cultivation possible while the crop is developing in the spring is not sufficient to keep down weeds, so that under ordinary conditions these are present in a liberal number and generous size and demand removal by the time one can get to them after the harvest.

Old plants that have spent their energy will only obstruct the chances of the patch for another season. These need not be cut out with weeds. The soil, stirred but little and packed hard by the repeated tramping of the pickers, is in a poor state to begin the growth of new plants and ripen another crop of berries.

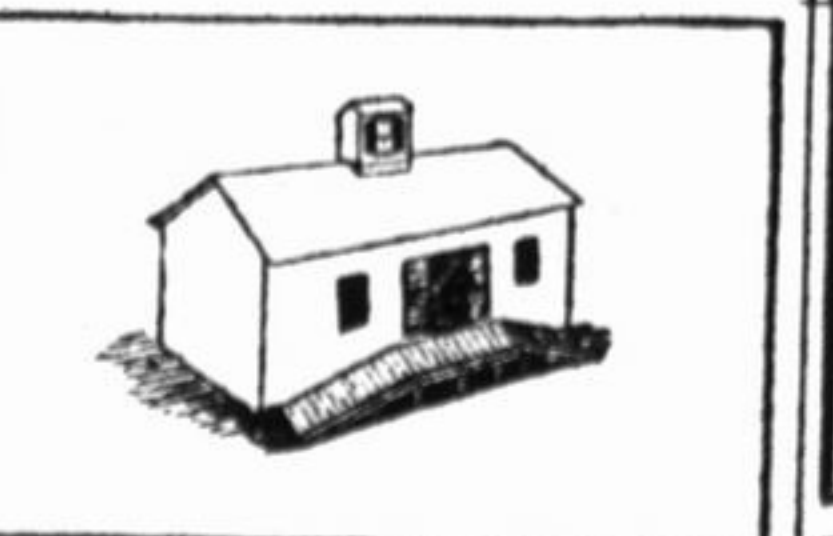
Deep and frequent cultivation is the only way to put soil in condition, and if it lacks in the elements of fertility there should be added and worked into the soil a quantity of well-rotted manure or commercial fertilizers if the former is lacking, or both, to replenish the plant food taken out by the last crop. After this has been done the old crowns will send out runners in every direction.

If these are permitted to establish themselves at random it would be but a short time till all trace of the old rows is obliterated. The prevention lies in training the new plants into rows corresponding to those occupied by the old plants. This is done by following a special method of culture. Run a horse plow about six inches from the center of each row on both sides, throwing the soil away from the row, thus leaving an undisturbed portion one foot wide.

STORAGE HOUSE FOR APPLES

Structure as Shown in Illustration is Partially Underground and No Refrigeration Needed.

Where apples are produced on a large scale it generally pays the grower to have storage houses of his own, for then he is able to hold his fruit and put it on the market whenever he pleases. The accompanying illustration shows the exterior of a good structure for such a purpose. Depending on size and locality where erected, it will cost from \$1,500 to \$2,000. Dimensions about 35 by 40 feet, though it may be built larger or smaller as desired. It is a two-story—that is, it has a lower and upper floor, the former being partly underground. No ice or artificial refrigeration of any kind whatever is used; rather the temperature is controlled by means of the windows and the ventilator on top.



Apple Storage House.

Inside the house is boarded with matched lumber on the studs and closely sealed on top of this, in addition to which the ceiling is heavily painted. The outside is covered, first, with a sheathing of inch lumber, followed by a layer of building paper, and the whole then covered with novelty siding. This, of course, seems like putting a great deal of material into the walls, but it is the only way to make them impregnable to heat and cold, thus insuring the safe keeping of the fruit stored within.

HORTICULTURAL NOTES

Montmorency is called the king of cherries.

Cultivation is one of the four great essentials in orchard management. The effectiveness of sprays and emulsions is gained only by regular application.

Packages should be of full measure. To fall short in measure is to provoke a customer.

Fruit not perfect enough for other uses may be made into cider and then into vinegar.

The taste for good fruit may be so cultivated that it will be had, even at a larger price.

Midsummer pruning heals quickly and is being practiced extensively by good orchardists.

First-class fruit in first-class shape will probably create an inquiry for more of the same kind.

Peach trees make good stock for plum grafting, as they usually have large vigorous roots.

If you have a poor seedling pear or apple tree it may be entirely made over by top grafting.

A large orchard poorly planted and poorly tended will not produce as good results as fewer trees well cultivated.

Hundreds of trees set every year die because of the neglect of the owners. It is not always the fault of the nurserymen.

If you did not have strawberries enough, fall set beds, set early and well cultivated and mulched, come in nicely next spring.

In growing all kinds of berries there is much more danger of getting too much bearing wood and too many plants than too few.

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