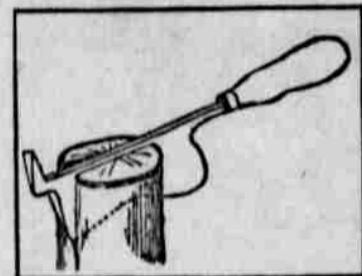


Orchard Information

GRAFTING AND BUDDING EASY

Illustrations Outline Method of Doing Work in Both Instances—Formula for Wax.

Budding usually is used in the propagating of the stone fruits, such as the peach, cherry and plum. The seedlings grown and used for the stocks must be in active growth when the budding is done. The bark must peel readily, leaving the active inner cells of the cambium layer upon the young woody growth. The bud which is to produce the new plant of the desired variety must come in contact with this layer



Making Cleft in End of Limb.

of active cells. In preparing the stock for the bud two cuts are made through the bark in the form of a "T." The bark is then raised, being careful not to injure the inner layer. The bud which has been removed from the "bud stick" with a sharp, thin-bladed knife, is slipped in under the opened bark of the stock. It is held in place by wrapping it with cord or narrow strips of cotton cloth. These must be cut a week or two after the work is done. The illustration shows the method of doing this work.

In budding peaches care must be exercised to avoid using any fruit buds for propagation. The fruit buds of peaches are found on the new growth.

Grafting is the method usually employed in propagating apple trees. The whip graft, such as is used in the nurseries, must be made in the winter time. The only method of grafting that is practical as the growing season begins is cleft grafting. This is used in top working trees of some size where it is desired to introduce a new variety using the established tree as the stock. In cleft grafting the limb of the tree is sawed off and then split by the use of a heavy knife or a knife specially designed for the purpose, as is shown in the cut. The twig of the variety desired is brought to a wedge shape at the lower end and is inserted in the cleft of the stock tree. It must be so placed that the cambium layer of the twig or scion comes in close contact with the similar layer in the stock.

The split in the stock must be protected by covering it with grafting wax. One of the most commonly used preparations is that composed of rosin four parts by weight, beeswax two parts and tallow one part. These are melted together, and as soon as it is hard enough to handle it is worked over until it becomes tough and light



D—Bud; E—Slit to receive bud; F—Bud in place.

yellow in color. The hands must be greased when handling this wax. Some of this wax should be so placed on the graft as to keep all moisture out and prevent the germs of decay from getting a start.

CARING FOR DECAYED TREES

Creosote or Tar Paint Should Be Applied to Stumps Where Limbs Have Been Removed.

Whenever the limb of a tree is blown off or becomes diseased the stump should be sawed off even and painted with creosote or tar paint; otherwise decay will set in and spread to other parts of the tree. Oftentimes even a nail hole will so injure the bark that it will come off, leaving the wood underneath unprotected. If these spots are left bare decay will set in and seriously endanger the tree. A coat of creosote or tar paint will prevent spread of decay and gradually the bark will grow over the bare place.

IMPROVE SOIL IN ORCHARDS

Most Old Neglected Trees Will Respond to Application of Fertilizer of Some Kind.

If the orchard is in clover sod, a mulch of manure will probably not be needed as the clover will furnish the necessary mulch. In regard to the question of whether it will pay to apply fertilizers or not, it may be said that most old neglected orchards will respond to the application of manure or commercial fertilizers until they regain their health and vigor. The time for applying is usually very soon after the leaves come out in the spring.

FARM ANIMALS

KILL ALL HARMFUL ANIMALS

Annual Loss Wrought by Predatory Wild Beasts and Rodents Mounts Up Into Millions.

Live stock and wool valued at \$20,000,000 are lost annually through the depredations of wild animals. The value of farm produce and forage destroyed each year by rodents is approximately \$300,000,000. It is estimated that the households of this country sustain an annual loss from rats and mice of \$200,000,000.

These figures sum up certain of the larger losses due to destructive wild life which the biological survey of the United States department of agriculture is engaged in reducing as rapidly as possible. A force of between 400 and 500 experienced hunters was employed by this bureau during the past year to kill predatory animals, many of which were infected with rabies;



Live Stock and Wool Valued at Millions of Dollars Are Destroyed Annually by Predatory Animals, Chief of Which Are Wolves and Coyotes.

this disease often is spread from the wild creatures to domestic animals, and frequently endangers humans. In this work of extermination the states and numerous private organizations have had an important share.

The work of killing rodents—prairie dogs, ground squirrels, jack rabbits and cottontails, pocket gophers, native mice, wood rats, cotton rats, etc.—is also carried on with the co-operation of the states. During the past fiscal year ground squirrels were poisoned on more than 14,000,000 acres. In one Idaho county alone 40,000 rabbits were killed. In the same period from 75 to 95 per cent of the prairie dogs found on a total of 2,200,000 acres were destroyed.

BANK FAVORS BETTER SIRES

Concern at Fond du Lac, Wis., Urges Its Patrons to Improve Quality of Stock.

With the publication of a four-page farm news leaflet, of which a current copy is a "Duroc Sale and Pig Club Number," a bank at Fond du Lac, Wis., is encouraging its patrons to improve their live stock. The editor of the sheet has the unique title of "bank agriculturist," and his activities are devoted largely to financing farmers who wish to acquire well-bred animals or to become joint owners in valuable sires.

In a letter to the United States department of agriculture the bank agriculturist calls attention to the support being given hog-cholera control, pig-club work, and other activities in which the government is active. The leaflet contains a "For Sale and Want Column," relating especially to live stock, gives current news among breeders, and contains discussions ranging from the cure of cattle to the handling of bees. An expressed purpose of the bank's activities is "to make Fond du Lac county a land where milk and honey flows."

RATION OF COTTONSEED MEAL

One Pound Per Day for Each 1,000 Pounds Live Weight is Most Satisfactory.

One pound of cottonseed meal per day for each 1,000 pounds live weight is the most satisfactory quantity to feed work animals, according to recent experiments conducted by the United States department of agriculture. A test in feeding cottonseed meal to work horses and mules at the government farm, Beltsville, Md., was begun in 1918, and continued last year. When the meal was fed in large quantities harmful effects were apparent, however, indicating that cottonseed meal, like any other high-protein feed must be fed with care to horses and mules.

BLACKLEG VACCINE IS FREE

Department Report Shows That 3,339,815 Doses Were Distributed During Last Year.

Vaccine for immunizing cattle against blackleg is still in great demand. A report of the bureau of animal industry, United States department of agriculture, shows that 3,339,815 doses were distributed free to stock owners during the last fiscal year. The vaccine sent out by the bureau is in the powdered form.

FAIRNESS IS GOVERNMENT'S ONE GREAT OBJECT IN MARKET NEWS DISTRIBUTION



Telegraphic Reports From Many Centers Regarding the Movement of Many Products Form the Basis of Federal Market Dispatches.

(Prepared by the United States Department of Agriculture.)

The authority back of a market report largely determines its value. Reports from the bureau of markets, United States department of agriculture, are counted of peculiar value in the maintenance of healthful economic conditions in America because they supply information that is comprehensive, always up-to-date, and unbiased.

What may be characterized as the key positions in the government's market-reporting organizations are the market stations. These are branches of the bureau of markets maintained in nearly a score of the larger cities, and one of their chief functions is to collect and distribute market news relating to several or all of the following products: Fruits and vegetables, live stock and meats, dairy products, hay, grain, and mill feeds and seeds.

Most of the branch offices are connected by leased wire with Washington and receive and distribute market news daily. The original data are assembled and condensed into reports, reviews and press articles which are distributed according to the needs of the market. Most of the men in charge of this work have had technical training and considerable experience either in production or marketing.

Station Men Understand Selling.

The work of these men resembles that of the county agent in that it is localized, but it differs from it since it deals primarily with the selling and not the producing phase of agriculture. In other words, the market station man begins where the county agent, in most cases, leaves off. He is able to analyze market problems comprehensively because he meets dealers, shippers, and buyers and is in daily touch with local trade conditions.

The co-operation which the market stations maintain with State marketing agents in 27 states is a decidedly helpful feature of the market news service. The national service is concerned chiefly with the wholesale marketing of produce shipped from one state to another, but the state agents are interested in local produce, both wholesale and retail. The national and state forces often unite not only in securing information, but in helping to solve special marketing problems and conditions, such as the more rapid movement of crops in seasons of heavy production.

The service of the market stations

STEERS STARTED ON SILAGE

Material is Bulky Enough to Eliminate Danger From Overfeeding and is Much Relished.

Silage has largely solved the problem of starting steers on feed. It is bulky enough to eliminate danger from overeating and unless cattle are accustomed to it they rarely eat greedily of it at the start, according to George W. Godfrey of Iowa State college.

Western range cattle that never saw corn take to silage as quickly as those of our native cattle that are not accustomed to it. When fed fodder these western cattle at first pick off the leaves and husks, leaving the stalks and ears. With silage they get acquainted with the corn taste at the start.

When grain is added to the ration, if spread over the silage, it is more evenly shared by the steers. Even when cattle are going at once onto a heavy grain feed a start with silage is best, as it allows a more rapid increase in the grain ration without danger.

A short preliminary feed of silage also puts them in good condition to make the best use of the grain ration later. Silage has a place in every feed lot that nothing else can quite fill.

MORE PROTEIN IN LEGUMES

Also More Carbohydrates in Alfalfa, Cowpeas and Such Crops Than in Johnson Grass.

Alfalfa, clover, lespedeza, cowpeas, soy beans, peanuts, all contain considerably more protein and more carbohydrates as well, than the non-legume hay, such as Johnson grass, timothy, prairie sorghum, etc.

and state agencies tends to displace many of the private agencies whose scope of operation is apt to be less comprehensive, prompt, and reliable. In addition to this general information, which might be called routine market news, various sections in the bureau of markets render important service by securing data regarding special commodities. The fertilizer sections, for example, have conducted inquiries and made reports on the supply and demand for fertilizers and fertilizer material. The transportation sections have rendered valuable aid in securing complete and regular reports on shipments, and also by expediting the unloading and return of cars. Without information on these related subjects, buyers and sellers often would go far wrong in their bargaining.

Prompt distribution of the information which the bureau of markets' representatives secure is essential to its value. Reports are collected early in the morning and are telegraphed from city to city so that they can be published the same day. In this way market information for the entire country is placed in the city dealers' hands a few hours after it is collected, and often shippers at remote country points have the data the morning following its compilation. The reports show not only actual sales or shipments of various commodities, but other important items which have a bearing on the markets.

Scope of Information.

In the course of the year the information made available through the United States department of agriculture has to do with the marketing of between 1,500,000 and 2,000,000 carloads of live stock and 500,000 to 750,000 cars of fruits and vegetables. The movement of cotton, dairy products, dressed meat, grain, and feed is covered in the same comprehensive fashion. It has been estimated that the department's market news reaches through 4,000,000 to 5,000,000 readers through the newspapers, reviews, and special articles go to tens of thousands of growers and dealers. Obviously, the growers and dealers profit directly from the market news service because of its completeness and fairness, but of no less importance is the benefit to the public at large, resulting from healthful, above-board competition promoted by easily obtainable market information.

COLTS REQUIRE MUCH GRAIN

If Animals Are Compelled to Consume Large Quantities of Silage They Develop Slowly.

At the University of Missouri, colts have grown from 562 pounds in weight on September 15 to 897 pounds on April 21, on a daily ration of 8.42 pounds of one-half shelled corn and one-half oats and 7.8 pounds of hay. Colts can consume small quantities of silage, but if they are forced to eat large quantities of silage they cannot be expected to grow as much as they would if fed more liberally on grain.

Bran, when available, and a small quantity of oilmeal may be fed to advantage to colts. Exercise, fresh water and good quarters must be furnished if best results are to be expected, but it should be borne in mind that the colt which arrives at its yearling form stunted and thin will be handicapped for the next two or three years of its life and may, perhaps, never fully recover.

DIGESTIBLE HAY NUTRIENTS

Nearly Three Times as Much in Timothy as in Corn Silage—Latter More Palatable.

In 100 lbs. of timothy hay there are 48.8 lbs. of digestible nutrients, or nearly three times as much as there is in corn silage. Corn silage, being a succulent feed and more palatable, is, on the whole, more easily digested. We have always calculated that one ton of timothy hay is equivalent to about two and a half tons of corn silage. Putting it in another way, when timothy hay is worth \$10 a ton corn silage is worth \$4.

POULTRY

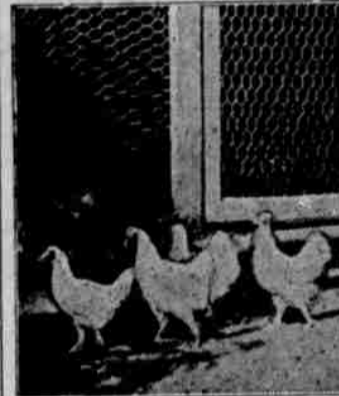
MITES ARE MOST INJURIOUS

Little Insects Suck Blood of Hen and Seriously Affect Her Ability to Lay Eggs.

If the best results are to be expected from the poultry flock, the buildings must not be allowed to become overrun with mites. Mites are more troublesome and more harmful than lice. They do not live upon the birds like the lice, but during the day hide in the cracks and crevices of the roosts and walls of the house, and at night they come out and get upon the fowls. They suck the hen's blood, and if allowed to become plentiful—as they certainly will if not destroyed—will seriously affect her health and consequently her ability to lay eggs.

Mites may be eradicated by a few thorough applications of kerosene or some of the coal-tar products which are sold for this purpose, or crude petroleum, to the interior of the poultry house.

The commercial coal-tar products are more expensive but retain their killing power longer, and they may be cheapened by reducing with an equal part of kerosene. Crude petroleum will spray better if thinned with one part of kerosene to four parts of the crude oil, according to poultry specialists of the United States department of agriculture. Both the crude



Open Front House is Best for Summer—It is Easy to Keep Clean.

petroleum and the coal-tar products often contain foreign particles, so should be strained before attempting to spray. One must be sure that the spray reaches all of the cracks and crevices, giving especial attention to the roosts, dropping-boards, and nests, and the treatment should be repeated two or three times at intervals of a week or 10 days.

GUINEA FOWLS ARE FAVORED

Hardest of All Domestic Poultry and Great Hustlers—They Keep Away Marauders.

There is no good reason why more guineas should not be kept on the farm. They are just about the hardest of all domestic fowls, and perhaps also the greatest hustlers, yet they seldom do their hustling to the injury of the garden or lawn. While quite domestic in their habits if treated gently, their wild nature leads them to remote parts of the homestead, where they pick up a large part of their living that would be overlooked by any other kind of fowl.

On farms infested with hawks, guineas are very valuable, their vigorous protests against every approach of the foe actually frighten them away. And no strange cat or dog can come on the place without their emphatic protest.

GOOD SHELTER FOR TURKEYS

Plain, Substantial House of Shed-Roof Type, Dry and Ventilated is Recommended.

A plain, substantial house of the shed-roof type, dry, amply lighted and well ventilated, is the better way for providing shelter for turkeys.

Such a house simplifies the keeping of turkeys, and has many commendable features, for the successful turkey farmer, besides making easy the care and attention necessary at certain seasons of the year.

TURNING EGGS FOR HATCHING

Not Necessary, According to Professor Kaupp, Expert of North Carolina Station.

Turning eggs while saving them for hatching, although generally recommended and practiced by poultry keepers, is believed to be unnecessary. Rather thorough tests conducted by Prof. B. F. Kaupp of North Carolina station show no gain in hatch ability of eggs turned every day over similar lots which were kept undisturbed until placed in the incubator.

FOWLS GET LAZY IN SUMMER

Some Hens Are So Inactive That They Do Not Earn Their Feed During Hot Weather.

As a rule hens do not show great activity during hot weather, but there are some which become so lazy that they are not worth their feeding. These are the hens that cut down their egg yield. Hot weather is worse for hens than cold weather, for during the winter months a hen with any life in her will busy herself to keep warm.

FARM POULTRY

DEMAND FOR GUINEA FOWLS

Value as Substitute for Game Birds Becoming Better Recognized by Many People.

The value of a guinea fowl as a substitute for game birds such as grouse, partridge, quail, and pheasant, is becoming more and more recognized by people fond of this class of meat, and the demand for these fowls is



Prime Young Guinea Are a Special Delicacy.

increasing steadily. United States department of agriculture specialists report. Many hotels and restaurants in the large cities are eager to secure prime young guineas, and often they are served at banquets and club dinners as a special delicacy. When well cooked, guineas are attractive in appearance, although darker than common fowls, and the flesh of young birds is tender and of especially fine flavor, resembling that of wild game. Like all other fowl, old guineas are likely to be tough and rather dry.

A few large poultry raisers, particularly those within easy reach of the large eastern markets, make a practice of raising a hundred or so guineas each year, but the great majority of guineas are raised in small flocks of from 10 to 25 upon farms in the Middle West and in the South. Many farmers keep a pair or a trio of guineas more as a novelty than for profit, and from these a small flock is raised. The guinea fowl doubtless would be more popular on farms were it not for its harsh and at times seemingly never-ending cry. However, some people consider this cry an argument in the guinea's favor, as it gives warning of marauders in the poultry yard.

CARE OF GROWING CHICKENS

One of Most Important Factors in Raising Poultry During Summer—Keep Them Growing.

The care of growing chicks during the summer is one of the most important factors in poultry raising. The chicks may be hatched from strong, vigorous stock and carefully brooded; but unless they receive the proper attention during the warm months, their growth may be retarded. In other words, they should be so managed that they will mature into well developed fowls.

KEEP BIRDS FREE FROM LICE

Dust Thoroughly With Good Insect Powder or Apply Mixture of Vaseline and Mercury.

Examine the pullets and hens for lice, and dust thoroughly with a good insect powder or apply a mixture of two parts of vaseline and one part of mercurial or blue ointment, about the size of a pea, one inch below the vent of the bird, rubbing the mixture lightly on the skin. An application of this ointment two or three times a year will keep the fowls free from lice.

POULTRY NOTES

- Destroy lice and mites.
- Confine or sell all cockbirds.
- Keep the nests clean and well littered.
- Gather eggs frequently and keep them in a cool place.
- Bread and milk make an excellent feed for young goslings.
- Feed a well-balanced ration with plenty of variety and if possible give free range.
- Eggs to be preserved should be strictly fresh, clean, unwashed, firm and free from cracks.
- From 50 to 80 per cent of the chicks hatched die before they reach maturity. This loss can be greatly reduced by proper feeding and care.
- The number of duck farms in this country is increasing, because of a widening of the market for young ducks, and this sort of poultry raising is growing more popular.