

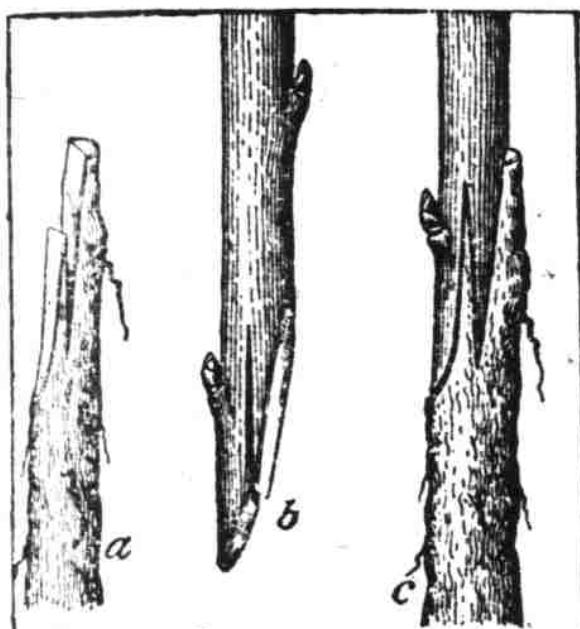
Horticultural Advice

WHIP GRAFTING IS FAVORED

Method Has Advantage of Being Adapted to Small Plants—Can Be Done During Winter.

(From the United States Department of Agriculture.)
Whip grafting is the one almost universally used in root grafting. It has the advantage of being well adapted to small plants only one or two years of age, as well as the other great consideration that it can be done indoors during the comparative leisure of winter.

The graft is made by cutting the stock off diagonally—one long, smooth cut with a sharp knife, leaving about three-fourths of an inch of cut surface. Place the knife about one-third of the distance from the end of the cut surface, at right angles to the cut, and split the stock in the direction of its long axis. Cut the lower end of the scion in like manner, and when the two parts are forced together the cut surfaces will fit neatly together and will nearly cover the other if scion and stock are of the same size. A difference in diameter of the two parts to be united may be disregarded unless it be



Whip Grafting: a, the Stock; b, the Scion; c, Stock and Scion United.

too great. After the scion and stock have been locked together they should be wrapped with five or six turns of waxed cotton to hold the parts firmly together.

While top grafting may be done in this way, it is in root grafting that the whip graft finds its distinctive field. When the roots are cut into lengths of two to five or six inches to be used as stocks, the operation is known as piece-root grafting. Sometimes the entire root is used.

The roots are dug and the scions are cut in the fall and stored. The work of grafting may be done during the winter months. When the operation has been performed, the grafts are packed away in moss, sawdust or sand in a cool cellar to remain until spring. It is important that the place of storage should be cool, else the grafts may start into growth and be ruined, or heating and rotting may occur. If the temperature is kept low—not above 40 degrees F.—there will be no growth except callusing and the knitting together of stock and scion.

In ordinary propagation by means of whip grafts, the scion is cut with about three buds, and the stock is nearly as long as the scion. The graft is so planted as to bring the union of stock and scion not very far below the surface of the ground; but where the trees are required to be especially hardy in order to stand severe winters, and the roots used are not known to be so hardy as the plants from which the scions have been cut, a different plan is adopted. The scions are cut much longer and the roots may be cut shorter, and the graft is planted so deep as to cause roots to issue from the lower end of the scion. When taken up to be set in the orchard, the original root may be removed entirely, leaving nothing but the scion and the roots which have been put forth from it. This is a common practice in preparing nursery stock for planting in the northern part of the Mississippi valley.

ATTENTION TO FRUIT TREES

Make Careful Inspection and Remove All Branches Broken by Storms or Heavy Crop.

Inspect carefully all fruit trees and remove any branches that have been broken by summer storms or a heavy crop of fruit. If only slightly broken they may be pruned up in such a way as to grow back together. If not remove by sawing off right up close to the main body of the tree or other branch from which it comes.

CAREFULLY PICK ALL APPLES

Each Specimen Should Be Placed in Basket, Box or Barrel So as Not to Bruise It.

In picking apples and other fruit, use great care in placing each specimen carefully in the baskets and boxes or barrels so as not to bruise it. See that picking baskets and field boxes are free from splinters and nails.

THE KITCHEN CABINET

Nine little sausages Sizzling on a plate. In came the boarders, And then they were ate. —Boston Transcript.

WHAT TO HAVE FOR BREAKFAST.

THE first meal of the day should be simple, substantial enough to suit the various needs of each member of the family, and not too great a burden upon the cook.

Ham Balls.—Take one cupful of finely minced cooked ham, one cupful of bread crumbs, two cupfuls of cooked potatoes mashed fine, two tablespoonfuls of butter, two eggs and a dash of cayenne. Melt the butter and beat all together until very light. Shape into small flat cakes; dip in egg and crumbs and fry brown.

Baked Salt Mackerel.—Freshen by covering with cold water, skin side up, and standing over night. Change the water a few times and unless very salt this treatment will freshen it sufficiently. Put into a baking pan and add boiling water. Cook in a hot oven until the water in the pan is evaporated; then add rich milk, and if the fish is very fat it will need no further seasoning. A fish lacking in fat is improved by adding bits of butter over the fish while baking.

Date Gems.—Take one cupful of dates, seeded and chopped fine, two cupfuls of milk, two tablespoonfuls of melted butter, two teaspoonfuls of baking powder, three cupfuls of flour and one egg well beaten; mix the egg and milk; sift the dry ingredients; add the chopped dates and combine mixtures. Beat hard and bake in well-buttered gem tins for 20 minutes.

Boiled Dinner Hash.—The hash made from the vegetables and meat left over from the boiled dinner is often more popular than the original dish. Chop all the vegetables, adding some of the broth which was saved; chop the meat, adding a small portion of meat to a large one of vegetables. Season with salt and pepper if needed, and heat quickly in a hot frying pan.

Fried Corneal Mush.—When making mush to eat with milk for a supper dish, prepare a double portion so that it may be sliced and fried, as it makes a most appetizing breakfast dish with a slice or two of well-cooked bacon.

Cornish Pie.—Pare and slice six medium-sized apples and one onion, add one and a half cupfuls of cold lard or mutton and a cupful of the stock or gravy. Put all together and simmer until the apples are soft. Put into a greased baking dish, cover with a rich biscuit dough and bake until the crust is brown.

A true friend embraces our objects as his own. We feel another mind bent on the same end, enjoying it, insuring it, reflecting it.

A FEW GOOD CHOWDERS.



OUR cook, if she has not in her repertoire a list of chowders, is missing one of the best of dishes for your family. When it is impossible to get fish or shellfish the following makes a fair substitute.

Corn Chowder.—Fry brown with a large sliced onion one-quarter of a pound of salt pork cut into dice. Cut from the cob enough sweet corn to make a quart and boil the cobs in water to cover 20 minutes. Put the corn into a kettle with the pork, onion, two cupfuls of diced or sliced raw potatoes, two cupfuls of tomatoes, sprinkling each layer with flour, pepper and salt. Strain the water from the cobs into the kettle and simmer slowly until the vegetables are done. Add two cupfuls of milk, two tablespoonfuls of butter and serve boiling hot with crackers. The tomatoes may be omitted if the combination is not liked.

Maryland Fish Chowder.—Fry two slices of salt pork and one large onion, cut fine. Add four pounds of fish and six large potatoes cut into dice. Cover with cold water and simmer until the potatoes and fish are cooked. Add one quart of milk, a little salt and pepper, with two tablespoonfuls of butter to season. Add six milk crackers which have been split and soaked in hot milk. Season with minced parsley and Worcestershire sauce.

Soft Clam Chowder.—In a muslin bag six allspice, six cloves and six peppercorns. Fry brown with a sliced onion and a quarter of a pound of minced salt pork. Add six sliced potatoes, a can of tomatoes, the bag of spices, a pinch of red pepper and four cupfuls of cold water. Simmer for four hours. Add a quart of soft shelled clams, parboiled and chopped, five milk crackers that have been split and soaked in milk; simmer for five minutes and serve hot.

Creole Chowder.—Fry brown in pork fat four large onions. Add five tomatoes, four sweet green peppers, shredded, and two cupfuls of corn cut from the cob. Add boiling water to cover. Season with pepper, salt and sugar and cook until the vegetables are done.

Nellie Maxwell

PHANTOM CANON HIGHWAY



Twin Cuts, Phantom Canon Highway.

THE Phantom Canyon highway between Cripple Creek and Canon City, Colo., is now open to travel, and as a result Colorado offers to the motorist another great circle trip through some of America's finest scenery. The highway was formally dedicated on August 30, when more than 500 motorists from Teller, Fremont, El Paso and other Colorado counties gathered at Glenbrook, a point midway between Cripple Creek and Canon City, and participated in the ceremonies incident to the opening of this road.

Phantom Canon highway is unique among the scenic roads of the Rocky mountains, and its story is one of the most interesting chapters in the history of road building in Colorado. In the early days of Cripple Creek, there was built the Florence and Cripple Creek railroad, a narrow-gauge line, to carry the rich ores to the smelters and to bring the fruit, hay and other products of the fertile valleys to the mining camps high in the hills. As time went on the need for this road grew less and less, until finally it was abandoned and dismantled. But the need for communication between mining camp and agricultural valley con-



The Narrows.

tinued. The county commissioners of Teller and Fremont counties were equal to the occasion; with the cooperation of the state highway commission they secured the right of way, and then they set about to convert it into a real highway.

Built on Old Railroad Line.
Probably \$1,000,000 was the original cost of building this roadbed, miles of which were cut and blasted from solid granite. At an expense of \$75,000, the road builders have made of it a first-class motor highway, rebuilt and repaired bridges, widened the roadbed where necessary, and generally put the 37 miles in excellent condition. While the road is almost a continuous curve, mile after mile, it is wide enough at most places for cars to pass, and ordinarily careful driving is all that is necessary. It is built on a 4 1/2 per cent grade.

It is a wonderful ride from the world-famous Cripple Creek mining district through Phantom Canon to Canon City and Florence. For the first few miles out of Victor the road stays on the top of the ridge, with long-distance views of Pike's Peak, the Sangre de Christo and other snow-capped mountain ranges. Then it loops its way down into the canyon.

Granite Walls and Deep Cuts.
Rugged granite walls stand like towers of many ancient ruins. The road winds along the base of these mighty cliffs, often through great cuts between high granite piles, occasionally crossing the ravine on a solid steel bridge, and even piercing the mountain sides through tunnels blackened in bygone days by the smoke of the locomotive that no longer sounds its shrill whistle to the echo of the narrow walls from which the canyon took its name. After a serpentine descent of 20 miles the road comes out onto the broad plains and soon is inaking its way past great apple orchards and fertile fields to the twin cities of Florence and Canon City. Completion of this highway makes accessible from Colorado Springs, and

equally as well from Canon City, Cripple Creek, Pueblo, Florence or Manitou, a circle trip of 135 miles, unrivaled either in ruggedness of scenery or in variety of interest. This trip completely encircles Pike's Peak, snow-capped "Sentinel of the Rockies;" it traverses historic Ute pass; winds through the world's greatest gold-mining camp, and passes the dumps of the greatest producing mines at Cripple Creek, Victor and Goldfield; unfolds the grandeur and rugged majesty of Phantom Canon, unquestionably one of Colorado's finest gorges; connects with the far-famed Sky-Line drive and the road to the top of the Royal gorge at Canon City; passes through the great orchard section, the oil fields and the cement districts, and winds back to Colorado Springs through pine forests and picturesque foothills country. Or the wider circle may well take in Pueblo, the "Pittsburgh of the West," with its immense steel mills, and up the fertile Fountain valley to Colorado Springs.

USED ELECTRIC RAYS

Cleopatra's Court Physician Known to Have Prescribed Them for Medical Purposes.

The electric ray is a species of fish found on the Pacific coast. It is known from central California southward to the Santa Barbara channel and is very common in Monterey bay.

This fish is provided with an electric organ composed of hexagonal cells, reaching from the skin of the upper surface to that of the lower, and situated at each side of the head and gill chambers. The electricity discharged from this ray has the properties of other electricity, such as rendering an iron bar magnetic, decomposing chemicals and producing a spark.

Stories vary as to the volume of the discharge, but even a small ray is capable of inflicting considerable pain. After a few discharges the fish becomes exhausted and must rest before its electric organs are again functional. It is of interest to note that the first record we have of the application of electricity is of the time of Antony and Cleopatra, whose court physician recommended the electricity of an electric ray for medical purposes, especially for pains in the head. Later it was prescribed for the cure of gout.—American Angler.

Gas Gets the Rats.

An enemy whose activities do not figure in the official reports but against which allied soldiers wage daily warfare is the rat. Tens of thousands of rats, huge, sharp-fanged fighters, have dug themselves in among the billets and trenches in France and Flanders and they are a constant torment. Thanks to modern medical science there has been little or no disease communicated by the rodents. Rats multiply rapidly in the trenches and thrive well. They steal the soldier's rations, disturb his rest and spitefully bite him when he offers resistance. The pest is hunted with ferrets, terriers, poison and traps and when particularly numerous given a gas attack. After the trenches are drenched with gas they are generally clear of rats for a long period.

Patriotic Honey Bees.

It is stated as a curious fact that the honey bee is this season doing more than its usual share in providing a substitute for sugar. An East side resident of Rochester, N. Y., who has succeeded measurably in keeping bees without undue annoyance to his neighbors, reports that none of his colonies have swarmed thus far this season, and that they are producing honey in great abundance. This is cheerful news in view of the fact that the English ration of two pounds of sugar per month for each person is now to be enforced in this country.

Disregarded.

Summer Boarder (slapping his cheek)—And you have a sign up. "No mosquitoes."
Farmer—I know it, but the consarned critters pay no more tention to it than the gunners pay to the sign "No trespassing"—Boston Evening Transcript.

LIVE STOCK

SELECT HOGS FOR BREEDING

Mismating Will Not Only Give Unsatisfactory Results, but Likely to Discourage Beginner.

(Prepared by the United States Department of Agriculture.)

Influence of the sow upon the offspring is just as great as that of the male. Mismating or a poor sow will not only give unsatisfactory results in breeding, but it will likely discourage the beginning breeder. This latter fact would be especially true of a youth carrying on a home project with swine.

If possible, secure a pure-bred animal of a good strain. The forehead should be broad, the throat clean and trim, the neck moderately thin, the shoulders smooth and deep, the back wide and straight, the chest wide and



A Good Type of Brood Sow With Her Family.

deep, sides straight and deep, the body long and capacious, pelvic region broad and well developed, legs straight and moderately short, and a generally refined appearance; yet overrefinement may indicate a delicate constitution.

If a number of brood sows are to be used they should be uniform in type. This is necessary to secure a uniform lot of pigs. It is very unsatisfactory and unprofitable in breeding to have litters of pigs varying in appearance and lacking uniformity. To insure a uniform result it is advisable to select from a well-established strain of hogs.

As was indicated in the case of the sow, both parents have practically the same influence on the quality of the offspring; however, the male has the greater influence on the entire herd, since every pig is sired by the male, whereas all pigs do not have the same dam.

While too much stress cannot be placed on the importance of the sow, if possible the male should be superior to the sow. Regardless of the type of the sow, a poor male should never be used.

Secure a pure-bred animal of a good strain. The masculine characteristics should be strongly developed, especially in the head and neck; the back should be broad, straight and deeply fleshed; sides deep and long; quarters well developed; legs straight and strong. The animal should stand well up on his toes.

IS HOG WALLOW DANGEROUS?

If Concrete Structures Are Built and Kept Clean, They Have Advantages.

(Prepared by the United States Department of Agriculture.)

Some farmers favor hog wallows; others are strongly opposed to them. Filthy hog wallows are a source of danger. Hogs wallowing in or drinking contaminated water are likely to contract disease. However, there are many advantages to be derived from wallows. A cool bath is very cooling to a hog during the hot weather. It cleans the scurf from the skin and protects the hogs from flies. Crude petroleum, sufficient to form a thin layer on top of the water, may be poured into the wallow about every ten days. This will tend to keep the hogs free from lice and other skin parasites. If the skin becomes irritated from the oil, its use should be discontinued. Small quantities of coal-tar dip are sometimes added to the water in hog wallows, but there is an element of danger in this practice, as poisoning may result from the absorption of phenol by hogs which lie in the wallow more or less continuously.

On some of the larger hog farms wallows are becoming popular. The cement hog wallow should be located in a shady place and made so as to contain from eight to ten inches of water. A two-inch drain pipe, as recommended for the dipping vat, should be placed in the bottom of the wallow to permit its being cleaned out.

In many cases a farmer is not financially able to build a hog wallow or a dipping vat. If this be the case, the dip, properly diluted, can be applied with a spray pump or sprinkling can, or else rubbed on every part of the body by means of a brush or a swab of cotton waste.

Another method of controlling lice is to tie the gunny sacks or similar coarse cloths around a post at a proper height, so that the hogs may rub against them, and saturate the sacks frequently with crude petroleum.

POULTRY

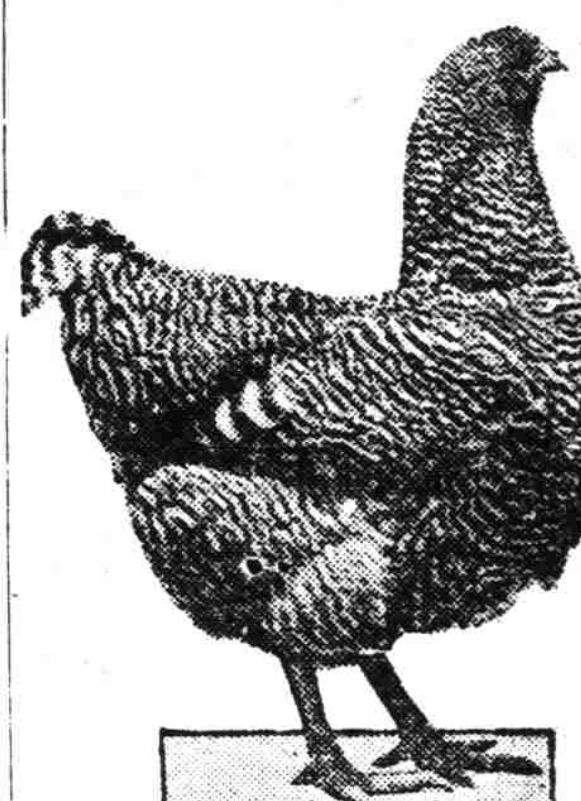
QUALITY IS OF IMPORTANCE

American Standard Breeds Are Good Producers of Meat and Eggs—Farm Hens Are Small.

(From the United States Department of Agriculture.)

Inasmuch as most farms have already some supply of poultry, the problem for the farmer is one of increase and not, like that of the city dweller who undertakes to keep hens to supply his own table with eggs, one of securing the foundation stock. While the American standard breeds are, for general purposes, the best, it is not urged that they be made to supplant other breeds where the other breeds are established and where they can be produced with a fair degree of success and of profit. The American standard breeds, broadly speaking, are the larger breeds of general-purpose fowl, good producers of both meat and eggs, as distinguished from the small breeds that are specialized egg producers. Farmers and farmers' wives who have built up their own flocks, and know the peculiarities of their breed and how to make the most of them will do best by keeping the hens that they have, even though they be small and inferior as meat producers, instead of trying to replace them with heavier ones.

In growing chicks, the quality—the vigor, vitality and capacity for growth



Barred Plymouth Rock Female, Bred at United States Government Farm.

—that the chick has when it starts in life count for at least as much as good conditions and good care.

Also, in growing stock for layers, it is especially important at this time when a large increase in meat products is needed, to avoid breeding from undersized specimens. Whatever may be the facts as to the relative value of large and small hens as layers, as that question relates to standard breeds, the question is irrelevant in this farm poultry production campaign, for farm hens are nearly all small according to standards for improved breeds of fowls.

The ordinary farm flock contains a large proportion of hens quite unfit for breeding—having no quality which it is desirable to reproduce. The eggs from these should not be used for hatching, but, as far as possible, eggs used for hatching should be from the best hens in the flock. To determine how many of these are needed, an estimate must be made, basing it upon the usual hatchability of eggs, and the probable length of the hatching season.

The ordinary average of hatches extending over a period of several months is about 70 per cent. If all the chicks are hatched early the length of the hatching season is about six weeks, from the setting of the first to the setting of the last hen used. Allowing two weeks for saving eggs before the first hens are set, the eggs used for hatching must be laid within eight weeks. Allowing for rejections of small and defective eggs, provision should be made for about 500 eggs in eight weeks. This means a flock of 15 to 20 hens as breeders. Such a number of the best of the flock should be separated from the rest.

As a matter of convenience it will probably be more satisfactory in most cases to confine the culis and give the portion of the farm flock used for breeders the usual accommodations and range. The culis may be shut in small quarters without yard if necessary, while that is not advisable for breeding stock.

The next thing to consider is the male. In many cases it will be to the advantage of farmers undertaking to increase and improve their flocks to buy standard males of general-purpose breeds because of the additional size and weight such males will give the chicks, to say nothing of the probable increase in egg production. From one or two pounds extra weight can be put on the chicks from ordinary farm hens by using males of approximately standard weight of Rhode Island Reds and Wyandottes, Plymouth Rocks and Orpingtons.

Free Range Is Ideal.
Free range is ideal, being conducive to rapid and economical growth, with feed material in the form of grubs, insects and green grass.

Good Feed for Start.
Little chicks and little turkeys usually do well if started on Johnnycakes, baked hard, crumbled and fed dry.