

FARM COUNTRY

Horticultural News

The HEART of COFFEE LAND

THE KITCHEN CABINET

LIVE STOCK

TO PROPAGATE BY GRAFTING

How to Prepare and Treat Scions and Stocks—Cover Cut Surfaces With Layer of Wax.

(Prepared by the United States Department of Agriculture.)

All the common pomeaceous fruits (apples, pears and quinces), the stone fruits (peaches, plums, cherries and apricots), and the citrus fruits (lemons, limes and oranges) are now multiplied by grafting or budding. The progress in plant breeding and the great rapidity with which new sorts are now disseminated could not be obtained without the aid of budding or grafting. Under existing conditions it is not necessary for the originator of a new sort of apple to give any thought to the question of fixing that type so it may be reproduced from seed; the method of reproducing the sort does not enter as a factor into his efforts to secure the desired variation. Grafting or budding has settled that long ago; but were it otherwise, horticulturists would be studying different problems, and the nurseryman would be more of a scientist than a manufacturer.

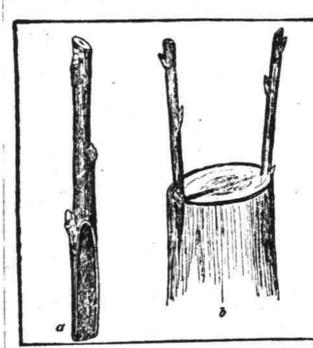
A scion is a portion cut from a plant to be inserted upon another (or the same) plant, with the intention that it shall grow. Except for herbaceous grafting the wood for scions should be taken while in a dormant or resting condition. The time usually considered best is after the leaves have fallen, but before severe freezing begins. The scions are tied in bunches and buried in moist sand, where they will not freeze and yet be kept cold enough to prevent growth. Good results often follow cutting scions in the spring just before or at the time the grafting is to be done. If cleft grafting is the style to be employed, this practice frequently gives good results, but spring cutting of scions for whip grafting is not desirable, as not enough time is given for proper healing of the wound before planting time in the spring.

The stock is the plant or part of a plant upon which or into which the bud or scion is inserted. For best results in grafting it is essential that the stock be in an active condition, or so that active growth can be quickly brought about.

This style of graft is particularly adapted to large trees when for any reason it becomes necessary to change the variety. Branches too large to be worked by other methods can be cleft grafted.

A branch one or one and one-half inches in diameter is severed with a saw. Care should be taken that the bark be not loosened from any portion of the stub. Split the exposed end with a broad thin chisel or grafting tool. Then with a wedge or the wedge-shaped prong at the end of the grafting tool spread the cleft so that the scions may be inserted.

The scion should consist of a portion of the previous season's growth and should be long enough to have two or three buds. The lower end of the scion, which is to be inserted into the cleft, should be cut into the shape of a wedge, having the outer edge thick-



Cleft Grafting—*a*, the Scion; *b*, Scions Inserted in Cleft.

er than the other. In general, it is a good plan to cut the scion so that the lowest bud will come just at the top of this wedge, so that it will be near the top of the stock. By cutting the wedge thicker at one side the pressure of the stock is brought upon the outer growing part of both scion and stock, whereas were the scion thicker on the inner side the conditions would be reversed and the death of the scion would follow. The importance of having an intimate connection between the growing tissues of both scion and stock cannot be too strongly emphasized, for upon this alone the success of grafting depends. To make this contact of the growing portions doubly certain, the scion is often set at a slight angle with the stock into which it is inserted in order to cause the growing portions of the two to cross.

After the scions have been set the operation of cleft grafting is completed by covering all cut surfaces with a layer of grafting wax.

Spread of Fire Blight.
The fire blight of apple and pear is spread quite largely through the aphides or plant lice which infest the young shoots in early spring.

Have Perfect Grapes.
Either spray the grapes, or inclose each bunch in an ordinary paper bag—if you want perfect fruit.



Street Scene in Sao Paulo.

SAO PAULO, or, to use the English equivalent, St. Paul, is the capital and business metropolis of one of Brazil's greatest states. Of the 20 states, one territory and one federal district into which the great southern republic is divided, the state of Sao Paulo and its splendid capital stand among the most progressive units of the entire nation.

The state, says the Bulletin of the Pan-American Union, in territory is larger than the five New England states of North America, with Pennsylvania added, or an area of 112,300 square miles, embracing undulating plain and valley with several low mountain ranges extending across the country. More than three-fourths of the state lie within the region of the tropic of Capricorn, and about one-eighth of Brazil's 24,000,000 people reside within its boundaries. Nature has divided this territory into two distinct regions—that bordering the Atlantic ocean for nearly 400 miles, where the temperature is hot and moist and where bananas, coconuts, cacao, oranges and other tropical products grow in abundance. This coastal plain is narrow in the north, but gradually broadens to 80 miles or more near the southern boundary of the state. Westward from the low mountains bordering the coastal plain the country is higher and well suited to agricultural crops, of which coffee growing is the most important. In recent years various other crops have been introduced more generally and are now additional important industries, which, together with stock raising, are greatly increasing private and public revenues.

Climbing the Coast range or the Serra do Mar (at some places 3,000 feet high) by the railroad between the sea at Santos and Sao Paulo city, a distance of 50 miles, we perceive changes in temperature and note how the country gradually and in places precipitously rises as the train moves westward. At Sao Paulo the altitude is about 2,500 feet, while the state as a whole averages 2,000 feet above the level of the sea. There are many higher elevations along the mountain ranges. The streams flowing to the Atlantic are short, while those which carry their waters northward, following the "lay of the land," are of considerable size, the largest being the Tiete river, which has been harnessed to supply the city of Sao Paulo with electric power, and also with water for domestic uses. This river traverses almost the entire length of the state, flowing in a northwesterly direction.

One of Brazil's Oldest Cities.
Sao Paulo, the state capital, is one of Brazil's oldest cities, its fragmentary history dating from 1500, when the Portuguese discovered the country.

Passing over many eventful periods, Sao Paulo has outgrown its youthful years and stands today as a great city—the third in commercial importance of the South American continent. Surrounding the city we find a fertile rolling country, devoted largely to coffee and other crops. The state is credited with 2,000,000 acres devoted to coffee growing, representing an outlay of \$500,000,000, and producing annually about 60 per cent of the world's coffee, the bulk of which trade centers in the capital. Furthermore, the network of 7,000 miles of railroads connecting the city with adjoining states is responsible for making Sao Paulo an interstate rather than a local outlet and trading mart.

The area of the city proper covers about 14 square miles, and its population of nearly 500,000 inhabitants has quadrupled during the last 30 years. About 35 per cent of the people are foreigners, the Italians being greatest in number, followed by Germans, Portuguese, Spaniards, French,

and English. There is a sprinkling of North Americans, who represent something like 50 different commercial interests in the United States. The city's birth rate growth of 40.80 per 1,000 inhabitants has been largely augmented by a constant flow of European immigration, while the death rate of 20.505 per 1,000 indicates the healthy condition of the people.

Streets Afford Broad Contrasts.

Sao Paulo's streets are both ancient and modern. The narrow and often congested business thoroughfares contrast strikingly with the broad avenues that cross the city and extend through the newer suburban sections. In the latter we find such an abundance of shade trees that one is reminded of Washington, while the large number of detached private residences suggest Denver or Buffalo. In Sao Paulo, too, we find types of the chalet, the Moorish palace, the French Renaissance, and other features of architecture more or less modified to suit local conditions. The Tiete river, passing through the northern suburbs of Sao Paulo, is an extremely crooked stream, and numerous affluents flowing through the city in various directions seem to have influenced the early builders and some of the oldest streets are crooked or winding.

The business heart of the city, often referred to as the triangle, is served by active streets locally known as Ruas. Thus Rua Sao Preto, Rua Quinze de Novembro, and Rua Direita are among the most important in the so-called, triangle district. Overlooking the Largo do Palacio, also in the midst of business life, stands the government palace. From this point streets and avenues radiate to all parts of the city and suburbs. In this business area the city blocks are not so regular or uniform as are the other sections of Sao Paulo. The Avenida Tiradentes extends northward to the Tiete; from the center of the city the Avenida Rangel Pestana opens a direct course to the eastward, passing one of the leading markets. Three thoroughfares leading to the southward, Ruas Liberdade, Santo Amaro, and Consolacao, provide direct access to the magnificent Avenida Paulista, by far the most beautiful boulevard of the capital. The principal business streets of the city are paved with asphalt and other materials, a feature that has encouraged the use of motor vehicles of all descriptions. (Last year Sao Paulo imported more automobiles than any other city of the country.)

The numerous parks of the city reflect large sums of money that have been expended in making them attractive. In numerous cases artificial lakes, natural streams, rustic bridges, statues, fine shade trees, and blooming flowers offer attractions to citizen and stranger alike.

Sao Paulo is a city of wealth, individual as well as official. Agriculture and industry have made many private fortunes, and these fortunes are reflected in the unusual number of palatial homes in the city proper and in the suburbs. No stranger can drive about the city without noticing the vast amount of capital and the diversified architectural talent that has been called to provide for Sao Paulo's wealthy residents.

Writing Paper for Soldiers.

Three hundred million sheets of writing paper have been ordered for the free use of American soldiers at home and abroad. The Y. M. C. A. has ordered 200,000,000 letterheads for immediate distribution to the camps and cantonments in this country and 100,000,000 letterheads to be sent to the American expeditionary forces within the next three or four months.

Despise not thou small things. The soul that longs for wings To soar to some great height of sacrifice too oft Forgets the daily round Where daily cares abound, And shakes off little duties, while she looks aloft.

BANANA AS FOOD.

BANANAS are a most wholesome, nourishing food. Being deficient in flavor itself, the banana absorbs flavors readily and presents a good medium by which such flavors may be brought into notice, thus affording a great variety of combinations. Because of the lack of acid in its composition it should be a popular breakfast fruit. The cooked banana, even slightly cooked, is more easily digested than the raw fruit. Simply covering the ripe thinly sliced fruit with hot cereal will cook it sufficiently.

Banana Croquettes With Lamb Chops.

Remove the peeling and coarse threads from five firm bananas; cut the fruit in halves crosswise, trim off the ends to make the halves symmetrical at the ends; roll in egg which has been beaten with a tablespoonful of water, then roll in sifted crumbs and fry in deep fat until brown. Drain on soft paper. Two minutes will be long enough for cooking. Serve with broiled lamb chops.

Compote of Bananas With Orange Sirup.

Remove the peel and coarse threads from six ripe bananas; let stand covered with boiling water a minute, then drain and pile in the form of a pyramid on a serving dish and pour over them a cupful of orange sirup.

Orange Sirup.—Boil a cupful of the juice and pulp of orange, the juice of half a lemon, one cupful of sugar and one-quarter of a cupful of water six minutes until slightly thickened.

Baked Bananas.

Pull down a section of the skin of each banana, loosen the pulp, remove the coarse threads and return the pulp to the skin, lay the fruit thus prepared in a saucpan and bake in a hot oven until the skins are blackened. Remove the pulp from the skins, bend in a half circle and place on a serving dish. Sprinkle with powdered sugar and chopped nuts as a dessert; or pour over a jelly sauce. Melt half a cupful of currant jelly, add a half-cupful of sugar and cook five minutes, then stir in a teaspoonful of cornstarch, made smooth with a little water; cook five minutes and add a tablespoonful of butter and a teaspoonful of lemon juice.

Fruit Cocktails.—To six tablespoonfuls of fruit juice add two tablespoonfuls of honey, the pulp of two oranges, three diced bananas, and four ripe peaches, diced. Divide into cocktail glasses and serve. This may be used also as a dessert.

Sure they of many blessings should scatter blessings round, As laden boughs in autumn fling their ripe fruit to the ground.

"TIS PICKLIN' TIME."

SO GREAT is the variety of relishes that she is indeed hard to suit who cannot find some which her family can enjoy.

Sliced Cucumber and Onion Pickle.

Take three dozen large cucumbers, peel and slice thin and cover with a sprinkling of salt overnight. Peel and slice one dozen small onions and treat in the same way, but do not mix them. The next day drain and squeeze dry. Scald the vegetables in a pint each of water and vinegar, then drain dry again. Now take a quart of vinegar, one cup of sugar, one ounce of celery seed, three teaspoonfuls of mustard seed, two teaspoonfuls of white pepper; when boiling hot put in the vegetables. Just let them scald, but do not cook, then seal in jars while hot.

Chutney.—Chop one dozen apples, two green peppers, one onion and one cup of raisins; add two cups of vinegar, one cup of sugar, the juice of one lemon and a half tablespoonful each of ginger and salt. Cook all together two hours.

Marion Harland's Relish.—Cut the corn from twelve cobs; break into flowerets one head of cauliflower, cut into half-inch lengths one bunch of celery, seed and chop fine two green peppers; add three tablespoonfuls of salt, one and one-half pounds of brown sugar and three pints of vinegar. Add the sugar to the vinegar and when scalding hot pour over the vegetables. Now cover closely and cook ten minutes. Add a tablespoonful of mustard and seal in jar. Wrap in papers to keep the mixture a good color.

Tomato Conserve.—Cook until thick five pounds of ripe tomatoes, three lemons, juice, pulp and rind; two pounds of sugar, one cup of shredded citron; when thick add one and one-half cupfuls of seeded raisins and one cupful of walnut meats.

Ripe Cucumber Chowder.—Grate twelve large, ripe cucumbers and three onions; press the pulp dry, then add one chopped red pepper; salt and pepper to taste, with vinegar to make the mixture as thick as prepared horseradish. Seal for winter use.

Nellie Maxwell



SHEEP RAISING IS PATRIOTIC

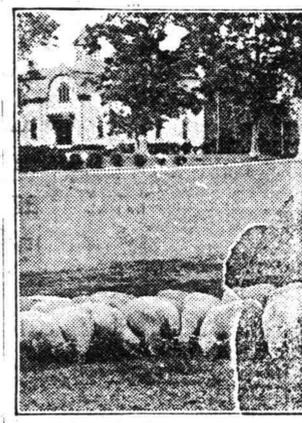
Wool From Twenty Animals Necessary to Clothe and Equip One Soldier for War Service.

(Prepared by the United States Department of Agriculture.)

War has given the sheep and wool industry a stupendous task. There must be 20 sheep back of every soldier to clothe and equip him. This need has made sheep raising a patriotic as well as a profitable undertaking. Sheep require little bread grain, and as both wool and mutton are in strong demand, the development of the industry will contribute materially to the nation's food and clothing supply. "Farm Sheep Raising for Beginners" (Farmers' Bulletin 840), a recent publication of the United States department of agriculture, contains all the general directions needed to make a start. Another recent publication of the department, entitled "Sheep and Intensive Farming" (Yearbook 1917, Separate 750), will also be found helpful.

For the present season wool has about trebled in price and the price of lambs has about doubled. The gross annual returns from ewes of breeding age may be expected to range from \$8 to \$15 a head, depending upon the percentage of lambs raised, the weight of the fleeces and the values for these products. The lamb and wool yield depend largely upon the breed selected. So the choice of a breed is a very important matter. There are 12 breeds of improved sheep which are well established in the United States, and a number of others are gaining in popularity. These breeds differ widely in their special points of usefulness for various sections and systems of management. These points are carefully developed in "Breeds of Sheep for the Farm" (Farmers' Bulletin 576).

Sheep require a very much smaller proportion of grain than is required by other meat animals, as they get



High-Class Flock of Southdown Ewes on a Vermont Farm.

much of their nourishment from rough permanent pasture, and at the same time they keep down the weeds, which is an improvement to the pasture. This information, with much else of interest and value, is to be found in "The Place of Sheep on New England Farms" (Farmers' Bulletin 929).

Sheep raising does not require expensive equipment or heavy labor. In mild latitudes little housing is needed. Important features of buildings for sheep, drawings, and bills of materials for barns, sheds, feed racks, etc., are given in "Equipment for Farm Sheep Raising" (Farmers' Bulletin 810). In any sheep enterprise provision must be made for the guarding or fencing-in of the flock, for not only are the animals prone to stray from home pastures, but they are favorite prey for dogs, which annually inflict great losses on the industry. Winter care must be provided for, and feed and sheltered quarters must be available in cold weather. Persons who desire to raise sheep are advised to enter the industry with a view of staying for several years at least. The useful life of a sheep is about six years.

SHEEP FOR "SLACKER" ACRES

Labor-Saving Value of Animals is Important, for They Are Effective Grass Cutters.

(Prepared by the United States Department of Agriculture.)

In the winning of this war guns and bullets are no more important than bread and meat. Several million acres of land in the United States produce good summer feed for sheep, but are not grazed at present. Effort should be made to secure the most economic use of every acre, and much may be accomplished in this direction by the raising of a few sheep in public parks, on golf courses and private lawns. The use of sheep in lawns and parks has been extensive in England. The labor-saving value of sheep is important, for they are neat and effective grass cutters.