

since it is very caustic and the result will be anything but pleasant.

With trees which are very thrifty, with no bark-lice and no scales of old bark, which ought to be removed, treatment with potash may be altogether unnecessary (though I am not convinced of this even in such a case), but if your trees are the least rough in appearance or affected with lice, then try it and be convinced of its value.

The Vegetable Garden.

Whether vegetables are grown in the garden or out in the root field where horse culture is easily given, whether for market or the home table, the general rules to be observed by the grower are the same; or at least what will succeed in one case will not fail in any of the others. The condition for the successful germination of seed in the land is that it should be placed so as to have a reasonable amount of heat, moisture and air. To secure these conditions in practice, the seed should be imbedded in mellow soil, and this packed around it just firm enough to bring into actual contact and make sure of capillary action in the soil. If the soil is left loose over and around the seed, capillary action cannot continue, and the seed is liable to dry out unless the season is very wet; on the other hand, the soil must not be allowed to become too compact over the seed, or the young seedlings will not be able to push through it. The time of sowing the various garden seeds varies greatly. Some seeds,

such as Spanish onion, lettuce and radish, may be sown as soon as the ground can be worked, while the seed of such tropical plants as corn, cucumber and squash, should not be sown until the ground is well warmed. The earlier sown, hardier seeds, are often frozen in the ground and perhaps covered with snow without injury; in fact, a covering of snow seems to help seeds of the hardy kinds to grow.

BEETS.

Turnip varieties being among the most delicious of the early summer vegetables, it is well to risk sowing early and a little thick in case of frost destroying a part. They can be easily thinned by hand when the plants are three or four inches high. In any case they should not be allowed closer than three inches in the row. The beet prefers a very rich, sandy, well-worked soil. Sow in rows about 16 inches apart in the garden, and wider in the field when horse cultivation is to be given. Cover the seed about one inch deep in mellow soil, pressing the ground firmly over the rows. As soon as the seedlings appear they should be cultivated with a wheel hoe to break the crust and kill weeds, and the cultivation repeated at frequent intervals. When the plants are eight or ten inches high they make excellent greens, and if then thinned to six or eight inches apart the bulbs will be ready to use in June and be good for the remainder of the summer. For winter use the seed should not be sown till the last of May or first of June.

CARROTS.

English Horn and other early table varieties are much appreciated on the table, and are a profitable crop for the market gardener. This vegetable requires fine, rich, upland soil to do well. The seedlings are quite delicate when they first come up, and every precaution should be taken to have the land clean so that the small seedlings will not be overrun with weeds; the surface soil should be kept loose and mellow throughout the season. It is well to sow a few radish seeds among the carrot seeds, as the former comes up earlier and marks the lines of the rows so that cultivation can be commenced early. The seed should be sown very early in the spring, and will then produce roots large enough for table use by early summer. The main crop may be planted somewhat later and in rows wide enough apart to admit of horse cultivation. If the seed is good and the soil moist, fine and rich, about two pounds per acre is thick enough. Very thick seeding is undesirable, as the cost of thinning in such a case is considerable. It is best for the grower to have the soil right and seed right, then sow thinly so that thinning and weeding will be easily done. The plants should stand three to four inches apart in the row when thinned.

PARSNIPS.

Parsnips, if sown at all, should be in early, as the seed is slow to germinate, and if the ground becomes dry before the plants are up the crop is gone for the season. This crop is grown in the same manner as carrots, but is rather more

Spraying Calendar.

(Recommended by Spramotor Company.)

PLANT.	1ST APPLICATION.	2ND APPLICATION.	3RD APPLICATION.	4TH APPLICATION.	5TH APPLICATION.	6TH APPLICATION.
Apple.....	When buds are swelling, copper sulphate solution and Arsenites.	Just before blossoms open, Bordeaux. For bud moth, Arsenites, when leaf buds open.	When blossoms have fallen, Bordeaux and Arsenites.	10-14 days later, Bordeaux and Arsenites.	10-14 days later, Bordeaux and Arsenites.	10-14 days later, Bordeaux and Arsenites.
Scab, codling moth, bud moth.						
Cabbage and Cauliflower.....	When worms or aphids are first seen, Kerosene emulsion.	7-10 days later, if not heading, renew emulsion.	7-10 days later, if heading, hot water (130° F.) or Hellebore.	Repeat third in 10 days if necessary.		
Worms, aphids.						
Celery.....	Ammoniacal copper carbonate at first appearance of disease.	Repeat first to keep foliage protected.				
Leaf blight, rust.						
Cherry.....	As buds are breaking, Bordeaux. When aphids appear, Kerosene emulsion.	When fruit has set, Bordeaux. If slugs appear, dust leaves with air-slacked lime. Hellebore.	10-14 days if rot appears, Ammoniacal copper carbonate.	10-14 days later, Ammoniacal copper carbonate.		
Rot, aphid, slug.						
Currant.....	At first sign of worms, Arsenites.	10 days later, Hellebore. If leaves mildew, Bordeaux.	If worms persist, Hellebore.	After fruit is harvested, apply Bordeaux freely.		
Mildew, worms.						
Gooseberry.....	When leaves expand, Bordeaux. And for worms as above.	10-14 days later, Bordeaux. For worms as above.	10-14 days later, Ammoniacal copper carbonate. For worms as above.	10-14 days later, repeat third.		
Mildew, worms.						
Grape.....	In spring when buds swell, copper sulph. solution. Paris green for flea-beetle.	When leaves are 1-1 1/2 inches in diameter, Bordeaux. Paris green for larvae of flea-beetle.	10-14 days, repeat first.	10-14 days later, Bordeaux.	10-14 days later, if any disease appears, Bordeaux.	10-14 days, Ammoniacal copper carbonate. Make later applications of this if necessary.
Fungous diseases, flea-beetle.						
Nursery Stock.....	When first leaves appear, Bordeaux.	10-14 days, repeat first.	10-14 days, repeat first.	10-14 days, repeat first.	10-14 days, repeat first.	10-14 days, repeat first.
Fungous diseases.						
Peach, Nectarine, Apricot.	Before buds swell, copper sulphate solution.	Before flowers open, Bordeaux.	When fruit has set, repeat first.	10-14 days later, repeat.	When fruit is nearly grown, Ammoniacal copper carbonate.	Repeat five at intervals of 5-7 days if necessary.
Brown rot.						
Pear.....	As buds are swelling, copper sulphate solution.	Just before blossoms open, Bordeaux; Kerosene emulsion when leaves open for psylla.	After blossoms have fallen, Bordeaux and Arsenites; Kerosene emulsion if necessary.	8-12 days later, repeat third.	10-14 days later, Bordeaux for black knot. Jar trees for curculio. When young plum scale insects first appear in summer, Kerosene emulsion.	10-14 days later, repeat fifth if necessary.
Leaf blight, scab psylla, codling moth.						
Plum.....	During first warm days of early spring, Bordeaux for black knot. When leaves are off in the fall, Kerosene emulsion for plum scale.	When buds are swelling, Bordeaux for black knot and other fungous diseases. During mid-winter, Kerosene emulsion for plum scale.	When blossoms have fallen, Bordeaux. Begin to jar trees for curculio. Before buds start in spring, Kerosene emulsion for plum scale.	10-14 days later, Bordeaux. Jar trees for curculio every 2-4 days. For San Jose scale, Kerosene emulsion when young appear in spring and summer.	10-20 days later, Bordeaux for black knot. Jar trees for curculio. Later applications may be necessary to prevent leaf spot and fruit rot, use Ammoniacal copper carbonate.	10-20 days later, Bordeaux for black knot. Later applications may be necessary to prevent leaf spot and fruit rot, use Ammoniacal copper carbonate.
Fungous diseases, curculio.						
Potato.....	Soak seed for scab in corrosive sublimate solution (2 ozs. to 16 gals. of water) for 90 minutes.	When beetles first appear, Arsenites.	When vines are two-thirds grown, Bordeaux; for beetles if necessary.	10-15 days later, repeat third.	10-15 days later, Bordeaux if necessary.	
Scab, blight, beetles.						
Quince.....	When blossom buds appear, Bordeaux.	When fruit has set, Bordeaux and Arsenites.	10-20 days later, Bordeaux.	10-20 days later, Bordeaux.	10-20 days later, Bordeaux.	
Leaf and fruit spot.						
Raspberry, Blackberry, Dewberry.	Before buds break, copper sulphate solution. Cut out badly diseased canes.	During summer, if rust appears on the leaves, Bordeaux.	Repeat second if necessary.	Orange or red rust is treated best by destroying entirely the affected plants.		
Anthrax, rust.						
Rose.....	For mildew, keep heating pipes painted with equal parts of lime and sulphur mixed with water to form a thin paste.	For black spot, spray plants once a week with Ammoniacal copper carbonate, using fine spray.	For red spider, spray twice a week with Kerosene emulsion. Apply to under side of foliage.	For aphid, spray affected parts with Kerosene emulsion when necessary.		Kerosene emulsion must be used very dilute, as rose foliage is easily injured by it.
Mildew, black spot, red spider, aphid.						
Strawberry.....	When growth begins in spring, Bordeaux.	As first fruits are setting, Bordeaux.	As first fruits are ripening, Ammoniacal copper carbonate.	When last fruits are harvested, Bordeaux.	Repeat third if foliage rusts.	Repeat third if necessary.
Rust.						
Tomato.....	As soon as disease is discovered, Bordeaux or a clear fungicide.	Repeat first at intervals 7-10 days.				
Rot, blight.						

* Arsenites referred to in the calendar include Paris green and arsenate of lead.

FORMULAS.

BORDEAUX MIXTURE.

	Canadian.	American.
Copper sulphate.....	4 pounds	6 pounds
Quicklime.....	4 "	4 "
Water.....	50 gallons	45 gallons

To destroy leaf-eating insects, add four ounces of Paris green. For peach, use three pounds each of copper sulphate and lime, and three ounces of Paris green, on account of the tenderness of the foliage. To dissolve quickly, place the copper sulphate in a cotton bag or basket, and suspend this in the vessel containing water so that it is entirely immersed. In another vessel slack four pounds of fresh lime with as many gallons of water. If the lime when slacked is lumpy or granular, it should be strained through a fine sieve or coarse sacking into the barrel containing the copper sulphate now in solution; then fill the barrel with water and it is ready for use. It should be used soon after being prepared. If the lime is air-slacked or impure, the right quantity can be ascertained by applying the ferrocyanide of potassium test. If the lime is deficient, a drop of the ferrocyanide of potassium (yellow prussiate of potash) added to the mixture will turn brown. Add the milk of lime till the drop of ferrocyanide of potassium remains colorless; then add a little more milk lime, to make sure that the strength is uniform, and fill the barrel with water.

COPPER SULPHATE SOLUTION.

Copper sulphate.....	1 pound
Water.....	25 gallons

AMMONIACAL COPPER CARBONATE.

Copper carbonate..... 5 ounces
Ammonia..... 2 quarts
Water..... 50 gallons
The copper carbonate is best dissolved in large bottles, where it will keep indefinitely, as it should be diluted with water as required. For the same purpose as Bordeaux.

PARIS GREEN.

FOR FRUIT.

Paris green.....	4 ounces
Water.....	40 or 50 gallons

FOR POTATOES.

Paris green.....	6 to 8 ounces
Water.....	40 to 50 gallons

Test of Paris Green.—Put a small quantity into some common ammonia or hartshorn. If it is good the Paris green will all dissolve, leaving no sediment; if not, there will be more or less sediment remaining.

If this mixture is to be used on peach trees, one pound quicklime should be added. Repeated applications will injure most foliage unless lime is added. Paris green and Bordeaux can be applied together with perfect safety. The action of neither is weakened, and the Paris green loses all caustic properties. For insects which chew.

ARSENATE OF LEAD.

Arsenate of lead.....	1 pound
Water.....	150 gallons

HELLEBORE.

Fresh white hellebore.....	1 ounce
Water.....	3 gallons

KEROSENE EMULSION.

Hard soap.....	1 pound
Boiling water.....	1 gallon
Kerosene.....	2 "

Dissolve the soap in hot water, add the kerosene, and churn with a pump, by directing the nozzles into the solution for 5 to 10 minutes until it emulsifies (or becomes of a thick, creamy consistency). This is the stock emulsion, and will remain in this state indefinitely. It must be diluted with water according to directions: From four times for the San Jose scale, when the leaves are off, to 20 times for aphids. For insects that suck, cabbage worms, and all insects that have soft bodies.

NEW SCALE REMEDY.

The most satisfactory remedy for San Jose and other scales is now recognized to be crude petroleum oil, applied as a spray, either pure or diluted with water to the extent of 75 per cent., in the winter season. Summer applications of this material are not recommended.

CAUTIONS.

Do not mix the copper preparations in iron or tin; always use wood, brass or earthen vessels. Study carefully the nature of the insect or disease, and select the remedy that is most likely to destroy it without danger of injuring the plants. Never spray with arsenites while the trees are in blossom, as the bees will be poisoned; they are necessary to fertilize the flowers.