The arsenate of soda and acetate of lead should be dissolved separately and then poured into a tank containing the required amount of water. These chemicals unite readily, forming a white flocculent precipitate of lead arsenate, which is easily kept in suspension and can be used in excessive strengths on delicate plants without the addition of lime. When sprayed upon the foliage, it forms a filmy adhering coat, which is but little affected by ordinary rains.

Another formula for making Arsenate of Lead is that recommended by Prof. H. T. Fernald, and is:—

Arsenate of soda, 50 per cent. strength	4 ounces.
Acetate of lead	11 "
Water	150 gallons.

Put the arsenate of soda in two quarts of water in a wooden pail, and the acetate of lead in four quarts of water in another wooden pail. When both are dissolved, mix with the rest of the water. Warm water in the pails will hasten the process. Prof. Fernald recommends that in mixing this with Bordeau mixture one gallon of the above should be mixed with fifty gallons of the mixture.

Soap Washes.—The most effective soap wash is made with whale-oil soap, one pound to from four to six gallons of water. The term whale-oil soap is merely a trade name for a fish-oil soap, made with either potash or soda. The potash soaps, which are the best, because even strong solutions remain liquid when they cool, are soft soaps. The soda soaps are hard. Of the two, the potash soaps are considered the best to use on vegetation, as well as being more convenient. Both kinds should always be dissolved in hot water.

When bought at retail prices, these soaps cost from 15 to 20 cents per pound, according to the locality, but if obtained in large quantities, can be got at from 3 to 5 cents per pound. Fifty-pound kegs are supplied at 5 cents per pound. Two well-known brands of potash soft soaps which have been much used in Canada, and have given good satisfaction, are those made by W. H. Owen, of Port Clinton, Ohio, and by Good & Co., of Philadelphia, Pa. If thought desirable, these soaps can be made at home; but it is very unpleasant and dirty work, and it is besides doubtful whether such good or cheap results can be secured as by buying from firms which make a special business of manufacturing soaps with only the required amount of moisture and the proper grade and amount of potash. It has been found in experiments carried on at Washington that what is required for spraying purposes is a caustic potash and fish-oil soap, made with a fairly good quality of fish-oil, and from which water has been eliminated by boiling, so that it does not exceed 25 or 30 per cent. of the weight of the soap. Soaps made with caustic soda instead of caustic potash are unsuitable for spraying purposes. Dr. J. B. Smith, in his circular No. 5, "Whale-oil Soap and Its Uses," says: "Whale-oil, or fish-oil, soap is one of the most reliable materials for use against plant-lice, and generally against sucking insects which can be killed by contact insecticides. It kills by clogging the spiracles, or breathing pores, of the insects and also to some extent by its corrosive action. The advantages of fish-oil over ordinary laundry soap lie in the greater penetrating power, in the fact