

The Canadian Horticulturist

Vol. XXXVII

MAY, 1914

No. 5

The New Soluble Sulphur Spray

LEADING orchardists in Canada are interested in the new spray mixture Soluble-Sulphur. In last issue of *The Canadian Horticulturist* appeared an article by Prof. L. Caesar, Provincial Entomologist, Guelph, Ont., advising its use this year only in an experimental way. In the same issue Mr. J. G. Mitchell, of Clarksburg, Ont., the well-known fruit grower and manager of the Georgian Bay Fruit Growers' Association, who used it in his orchard last year, advocated its use strongly.

Writing in "Better Fruit," F. A. Frazier, of Portland, Oregon, an authority on apple culture, says regarding it:

Soluble Sulphur is a compound made by melting under high degree of heat in specially designed furnaces, of sulphur and soda (not caustic soda), resulting in a soluble powder fifty-seven to sixty per cent sulphur. All sulphur in solution is caustic in a certain sense. The sulphur is simply more active in the solvent condition. The caustic property of soluble sulphur is due only to the sulphur in solution and not to the solvent agent. Much loose talk has been indulged in pertaining to things caustic. No properly made sulphur spray ever injured a tree. Sometimes the fruit or foliage has been burned, but in most cases such burning is because of previous fungus infection and injury admitting the spray to the wounds caused, or a devitalized condition of the tree where it does not have normal power of resistance. Soluble Sulphur is sometimes spoken of as being more caustic than lime-sulphur. What is really meant is that there is a greater spray value to a given quantity.

All contact sprays in general use of any value have the caustic or burning quality. The virtue of crude oil, as a scale spray, over the lime-sulphur is because of its greater burning properties. That is why crude oil can not be safely used on tender trees or foliage which together with its gumming and pore-filling characteristics has rendered it unsafe as a tree spray for continued use. Lime-sulphur Solution reacts very rapidly in presence of the atmosphere (returns to its solids), thus withdrawing from action a large portion of sulphur.

A solution of soluble sulphur does not re-act in the same way. The tendency is to spread and penetrate until evaporation

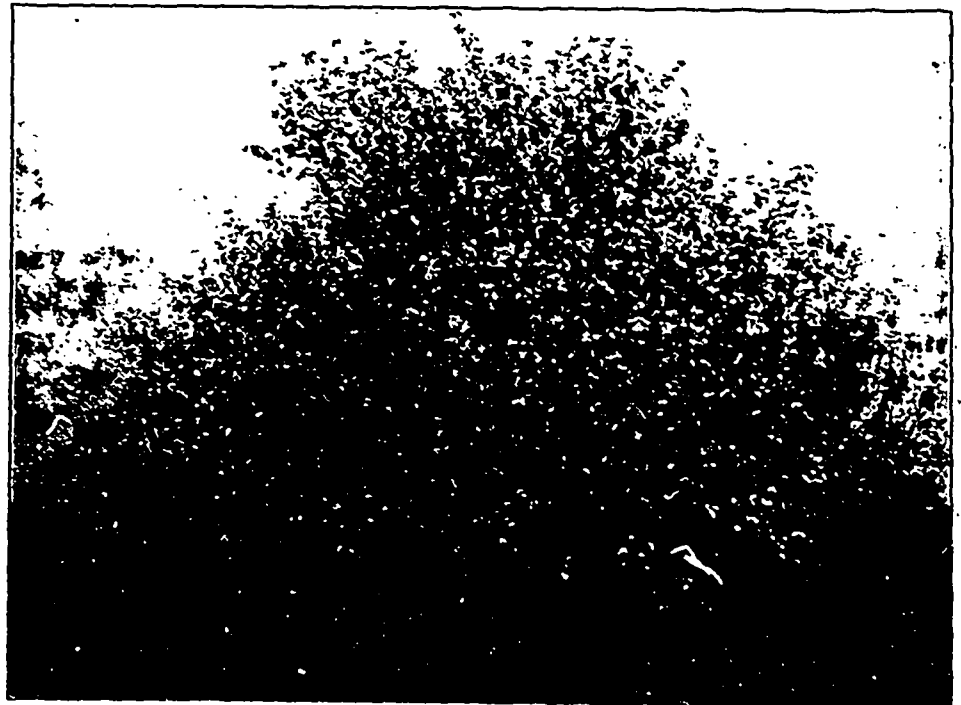
of water leaves the finely divided sulphur thoroughly spread over the surface and effectually carried into the scale crusts. Thus a given quantity of Soluble Sulphur spray will go farther in effective work than the same quantity in the old time lime-sulphur way.

In soluble sulphur the perfect spreading quality prevents the concentration of spray in drops, so when used in proper proportions it does no harm to the most tender plants. Soluble Sulphur is, therefore, not only a superior scale spray, but a very effective and economical scab spray. There is also a valuable feature in that the trees assimilate very readily the sulphur in this form, thereby producing a greater vigor and extending to a better coloring of fruit. Soluble sulphur can be safely applied at winter strength when the fruit leaves of apple trees are the size of a squirrel's ear. This combines the winter strength spray with the first scab spray and at this time also the aphids are more susceptible to control.

Sulphur, even the old time home-boiled and later the concentrated solutions, has been an element of no small value to the western orchards through the assimila-

tion by the trees. The orchardists of the east know this truth better because of the comparisons which they have observed between sulphur orchards and those otherwise sprayed or unsprayed. If there is one factor above another to which the success of the western orchards can be attributed, it is the thirty-odd years' use of the sulphur sprays. In the last six or seven years the same thing has been the greatest single factor which is bringing eastern orchards up to the standard of the much and justly famed western orchards. Should the western orchardist ever forget what he owes to the sulphur sprays, just that soon he stands aside while the east passes him on the way to market with the high-grade fruit.

The economy of soluble sulphur is apparent, one hundred pounds being equal in effective value to fifty-seven gallons of thirty-three degrees lime-sulphur solution. As to the efficiency, results count for more than far-fetched theories. Having been under the closest investigation for three years, we find it used exclusively on many orchards of two or three hundred acres, the equivalent of fifteen thousand barrels of solution being used out



Golden Russets in Bloom: Orchard of W. H. Gibson, Newcastle, Ont.

These Russets were fifteen years planted and averaged four barrels to a tree. This variety is in great demand on the English market and should be more extensively grown where the soil is suitable.