

apples for all purposes. The tree is a medium grower here and fairly healthy." W. H. Dempsey, Trenton.

"The Gravenstein has not been largely planted in this district, but what have been planted have succeeded quite satisfactorily. The tree is a vigorous, spreading grower, especially while young. I do not know of any Gravenstein trees that have been blighted or frozen or been scalded by the sun,

although some here have been planted 30 years. The trees are good average bearers of very handsome fruit of excellent quality, but like many other varieties of fine apples, they are only fall or late fall apples, ripening generally before Christmas. Taken fully matured it is very delicious. For home market, or the North-West, it should prove profitable." R. L. Huggard, Whitby.

## ON THE PREPARATION OF LIME, SULPHUR AND SALT SPRAY.

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HIS mixture has recently received considerable attention in the horticultural press and several formulae, with varying methods of preparation, have appeared. This has given rise to enquiries as to the best mode to adopt in making the spray. To answer these the more satisfactorily, we have within the past few weeks made a series of experiments using the quantities and methods of procedure advocated by the more important authorities, and as a result have obtained information on one or two points that may be of interest to orchardists.

1. **Proportions.**—Since the insecticidal and fungicidal properties of the spray appear to be due to sulphide of lime and not to free (uncombined) sulphur or lime, it is desirable on the grounds of economy and efficiency that the proportion of sulphur to lime should be such that after boiling there may be little or no free sulphur in the mixture. We find to ensure this that the quantity of lime should at least equal that of the sulphur. An excess of lime apparently does no harm; indeed, according to some authorities, it is necessary in order to give the spray the correct consistency, but too large an excess is certainly to be avoided as it will be apt to cause clogging of the nozzle. We have found the following proportion satisfactory :

Lime . . . . . 25 lbs.

Sulphur . . . . . 20 lbs.

Water . . . . . 60 gallons.

We also tried a formula with a large excess of lime and obtained a good result:

Lime . . . . . 35 lbs.

Sulphur . . . . . 15 lbs.

Water . . . . . 50 gallons.

2. **The Lime.**—The lime should be thoroughly slaked to avoid subsequent clogging of the nozzle. If part of the lime is added after the spraying mixture is made as directed in some recipes, the proportion of lime to sulphur in the mixture as boiled should not be less than that indicated in the first formula given above.

3. **The Boiling.**—It is essential that the boiling should be continued a sufficient length of time to allow all the sulphur to enter into combination. This, if accompanied by constant stirring, will be usually between 2 and 3 hours.

4. **The Salt.**—The addition of salt (usually at the rate of 15 lbs. to each of the foregoing formula) is recommended by all writers. This may be from its alleged action in increasing the adhesive qualities of the spray. It does not seem to affect its properties otherwise.

5. **Apply Hot.**—On cooling certain of the lime sulphides formed crystalize out. It is, therefore important, we consider, to make the application while the mixture is still hot.