

Lime sulphur as a flower thinning agent

Schwefelkalk als Blütenausdünnungsmittel

Joke Bloksma, PieterJans Jansonius

Abstract

LBI did some trials in Dutch organic orchards and summarised the research experiences of our colleagues from a number of other countries in a publication. As other blossom thinners, lime sulphur has a variable efficacy of 0-50% for one single spray. Most effective are spraying with high volume (≥ 500 l/ha per metre of tree height), warm and humid weather and 30 to 40 kg lime sulphur per ha. The effect can be improved by more frequent applications; this is also true during blossoming on first year wood. As side effect, we find fewer seeds (reduction of 0.5-1.5 seeds/fruit). In our trials lime sulphur sprays had no effect on fruit russetting.

Keywords

Blossom thinning, lime sulphur, application technique, fruit russetting, seeds.

Introduction

Of all the blossom thinning agents that are compatible with the EU regulations for organic production, we believed lime sulphur had the best potential. This agent combines the best thinning effect with the least amount of fruit russetting, and it is also a reasonably effective scab control agent. We did some trials in Dutch organic orchards and summarised the research experiences of our colleagues from a number of other countries. Unfortunately, after finishing our research lime sulphur lost its registration in Holland in June 2001.

Efficacy as thinning agent

From the combination of all the experiences, the following picture emerges: depending on the conditions, the thinning effect of a single spraying varies from 0 to 50%. This means that the application is quite unpredictable, but this aspect does not differ greatly from conventional chemical blossom thinning agents.

However, none of the reports from abroad reported successful prevention of an alternate bearing year in a variety such as *Elstar* with three sprayings during heavy flowering. Manual thinning remains necessary, but using a blossom thinning agent still saves a great deal of labour.

Spraying technique, dosage and timing

To achieve the greatest thinning effect, the best time for spraying is after the fertilisation of the first blossom when many of the following blossoms have just opened. The best effect appears to be obtained by spraying with a great deal of

water (a minimum of 500 l/ha per metre of tree height) using 30 to 40 kg lime sulphur per ha. During warm and humid weather, the effect is stronger than during cold and dry weather. Weak flower buds and buds on first year wood are probably more easily thinned than strong buds. The effect can be improved by more frequent applications; this is also true during blossoming on first year wood.

Side effects

The well known side effects of lime sulphur when used for controlling scab, such as russetting and leaf burning, occur only slightly or not at all when applied during blossoming. However, the average number of seeds in the fruit drops by 0.5 to 1.5 seeds; this may affect fruit quality in a season with low number of seeds.

If lime sulphur is used as a scab control agent and no blossom thinning is desired, the above information can be used to select spraying conditions that result in minimum thinning.

Publication

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