

Method for fruit thinning of apple trees

Field of use

Horticultural method – fruit trees

Current state of technology

Fully developed method (TRL 9)

Patent status

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Applicant

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Prior Art

Chemical thinning of small fruits in commercial apple orchard is the necessary technological procedure which assures high quality fruits and constant bearing of the crowns through the years. There is no fruit thinning agent registered for use in so called organic fruit production. The existing fruit thinning agents are expensive, they are hormonal-type plant growth regulators and their action is dependent on physiological and weather conditions at the time of spraying. Further, their time application window is narrow and mostly too early to satisfy growers need on secure late spraying of fruit thinning agents. Marketing demand to find new fruit thinning compound, capable to thin the fruit consistently, late and in sustainable way for the environment, is high.

Description of the invention

After eight years of research we found polysorbates as possible new fruit thinning agent for apple commercial orchards. The present invention relates to the method and agent for late fruitlet thinning of apple trees, to reduce fruit set of fruit trees. The composition which comprises a mixture of lecithin or polysorbates as active ingredients, alone or in combination, with water is used for application on fruit trees after the blooming period. The mixture of active ingredients mentioned above, i.e lecithin and polysorbates, can be sprayed to the trees at a late fruitlet stage from 6 to 30 mm king fruit diameter.

Main advantages

Polysorbates were found to be active as apple fruit thinner in very late stage, up to 22 mm fruit diameter, while commercial thinners in the market can be applied only between 6-16 mm fruit size. Also polysorbates are food additives known in human diet as "E" (emulsifiers) and are non-toxic for humans. This substances and their registration for fruit thinning in the orchard should satisfy great pretension ecotoxicological legislation needs. Further advantage of polysorbates as new thinners are theirs low costs. They can be sold to apple growers for at least one third of the price of existing commercial fruit thinners.