PRACTICE ABSTRACT

Recycling sprayers in pome fruit growing

Problem

The drift of plant agents can cause problems in adjacent non-target structures, such as waters, neighbour plantations, or urban areas. Also, some products are expensive and should be used as efficiently as possible.

Solution

Recycling sprayers offer a high drift reduction while being less sensitive to weather conditions (wind) and save up to 30% of spraying solutions per treatment.

Benefits

Recycling sprayers are available as multi-row sprayers, so the application rate per hectare decreases, and the drive alleys can be better preserved.

Applicability box

Theme

Crop production, Horticulture, Temperate fruits

Keywords

Plant protection, pest control, biological pest control, drift reduction

Context

Central Europe

Equipment

Recycling tunnel sprayers

Best in

Pome fruits

Practical recommendations

Before acquisition, consider:

- Recycling sprayers require wider headlands and, if possible, larger, adjacent and straight parcels due to the reduced manoeuvrability of the equipment
- Most hail protection systems are not suitable with tunnel- or multirow-sprayers
- The devices demand a high technical knowledge of the operator and require frequent maintenance

Technical information:

- Recycling tunnel- or reflector sprayers come with lateral shielding and one- or two-sided air support that passes unattached pesticide through the tree, collects it on the opposite side at the tunnel wall, and returns it to the tank via a sump at its base. This technique saves up to 30% of the spraying solution per treatment. This amount varies with the leaf mass of the tree. The highest recycling rates can be achieved before blooming. During the year, the possible rate saved lowers up to ~10%. On average, 15% of sprayed solution can be saved over the season.
- Well tested recycling sprayer systems in organic fruit growing are, e.g., NTR20 by WANNER (Picture 1) and OSG-NVM2 by LIPCO (Picture 2).
- Check out the videos in the section below to get further information on recycling sprayer systems.

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Picture 2: WANNER NTR20 Reflector-recycling sprayer. Photo: N, Oeser, 2018.

Picture 1: LIPCO OSG-NVM2 Recycling-Tunnelsprayer. Photo: Ralfs, 2017.

Further Information

Videos

- Less pesticides in fruit growing with modern spraying techniques (LIPCO and WANNER tunnel sprayers) (YouTube video, English with subtitles)
- Plant protection in fruit growing: technology and operation of tunnel sprayers (YouTube video, German)
- Tunnel application technology in fruit growing: expectations and practical experience (YouTube video, German)
- Biological efficacy of tunnel sprayers - A comparison with standard technology in orchards (YouTube video, German)

Weblinks

- www.eip-esteburg.de – Information on tunnel spraying systems and the special plant protection regulation "ALVO" on water protection against drift in Germany.

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