PRACTICE ABSTRACT

# Apple scab (*Venturia inaequalis*): Robust cultivars for Central Europe

## Problem

Apple scab (*V. inaequalis*) is the main disease in organic apple production. Availability of varieties is a major problem as only a few robust varieties are available on the market.

## Solution

We propose a list of currently well-known robust varieties that are suitable for large scale production. Current breeding of new cultivars is crucial for the future of organic growing, stay tuned.

## Benefits

Using robust cultivars reduces the need for external and high cost inputs, reduces the workload on farmers (less applications are needed) and enhances the sustainability of the fruit production.

## Applicability box

**Theme**

Crop production, Horticulture, Temperate Fruits

**Keywords**

Plant protection, apples, apple scab

**Context**

Central Europe

**Application time**

During planting season (Nov-Apr) and any time planning is possible

**Period of impact**

5 years until new orchards comes into full yield

**Best in**

Organic farms

## Practical recommendations

- The choice of scab resistant/tolerant varieties depends on the climatic and site related conditions as well as the farm-specific marketing requirements. Discuss with farmer colleagues and the regional or national consulting services for organic fruit growing about the best scab resistant/tolerant varieties in your area.
- Check the FiBL list of varieties for organic cultivation for an overview on available cultivars and some of their production characteristics in the link section.
- The most common scab-tolerant cultivars in central Europe are:

  Story/Inored, Topaz, Opal, Ladina, Santana and Antonovka.
- Resistant varieties do not overcome apple scab completely. Treatments with plant protection products are still needed but choosing the right variety significantly reduces dependency on external inputs. (Figure 1)

BIOFRUITNET
Boosting Innovation in ORGANIC FRUIT production through stronger networks

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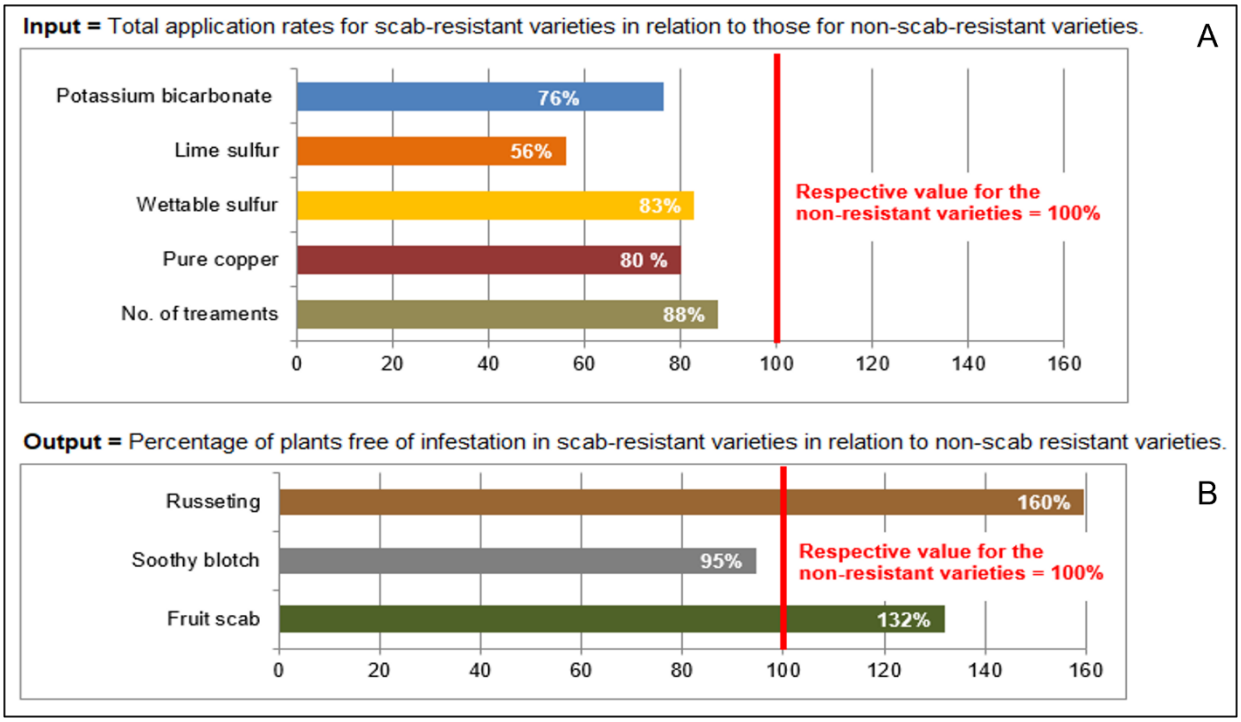


**Figure 1: Plant protection products application rates and percentage of plants free of infestation in scab-resistant varieties compared to non-scab resistant varieties. The data shows farms with both resistant and non-resistant varieties in Germany in 2018. Means=30 out of 34 farms evaluated (see links below).**

A. Ratio of plant protection products sprayed in scab resistant and non-scab resistant varieties (Input). The input of pure copper for the scab-resistant varieties in 2018 decreased to about 80% of the application rate used for the non-resistant varieties. A similar reduction is shown for sulphur. Complete elimination of direct regulatory measures was not possible with the scab-resistant varieties. However, the input of fungicides is significantly reduced, and, relatively, the number of sprays was little reduced.

B. Percentage of infestation-free (infested fruit < 5%) plants in scab resistant and non-scab resistant varieties (Output). Fruit scab infestation in resistant varieties is reduced about 1/3 when compared to non-resistant varieties. A significant reduction of infestation is shown also for Russeting while no significant changes were recorded for Soothy blotch.

## Further information

### Weblinks

- Varieties recommended for organic fruit growing in the FiBL shop (in German and French).
- Article on keeping plants healthy in organic apple production from FÖKO (in German).
- Check the Organic Farm Knowledge platform for more practical recommendations.

## About this practice abstract

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