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**Pest, disease and weed
management in strawberry –
progress and challenges for the
Nordic production**

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Weed management with different mulches under organic strawberry production

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Weed population must be kept low to ensure crop growth and yield quality. The application of different materials to the soil as mulch is a common cultural practise in organic berry cultivation. Mulches are mainly used to hinder weed growth, but especially organic mulches can also affect soil properties, e.g. soluble nitrogen content.

Since 1997, different mulches have been tested in organic currant and strawberry production in MTT Mikkeli. In 2000-2002, different mulches were tested in field trials under organic strawberry production. The mulching materials were black plastic, flax fibre mat (woodchips + buckwheat husk in 2002), green mass, straw, buckwheat husk, birch woodchips and pine woodchips.

In Finland, UV-proofed, 0,05-0,06 mm thick polyethylene plastic is commonly used as a mulch in strawberry production. Plastic is long-lasting material and appropriate for strawberry. Plastic provides good weed control and tends to increase the soil temperature compared to organic mulches, but plastic is laborious to remove from the fields and is waste after cultivation. In addition, plastic seems to promote the reproduction of strawberry mite.

Studied mulches suppressed weeds effectively, except green mass mulch and flax fibre mat mulch. Those mulches decomposed very quickly and weeds grew easily through them. Thus green mulch is used in horticulture mainly as fertilizer. Buckwheat husk mulch turned into a hard layer after rain, and due to rather high nitrogen content of the mulch the foliage was very dense. The vegetative growth remained low in woodchips mulches.

Our studies indicate that weed control efficacy of organic mulch materials is limited and is not as effective as the conventional plastic. Weed control efficiency also varies depending on the weed species.