

The effect of different mulches on the growth and yield of organically grown strawberry

Pirjo Kivijärvi¹ and Soile Prokkola²

¹MTT Agrifood Research Finland, Ecological Production, Mikkeli, Finland

²MTT Agrifood Research Finland, Ostrobothnia Research Station, Ruukki, Finland

Correspondence to: [pirjo.kivijarvi\[a\]mtt.fi](mailto:pirjo.kivijarvi[a]mtt.fi)

Different mulches were studied in field trials over a three-year period under organic production in Mikkeli and Ruukki. In June 2000, organically produced strawberry plants, cv. Jonsok, were planted in four replicates in double rows, 10 plants plot⁻¹, 45 cm apart. 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 the planting year, the growth of strawberry plants was the most vigorous in buckwheat husk at both sites. Growth was measured as number of leaves, runners and runner plants. Strong vegetative growth was mostly due to the fairly high nitrogen content of mulch increasing the soil mineral nitrogen content. Vegetative growth was moderate both in plastic and green mass mulch and low in straw, flax fibre mat and woodchips. The canopy was very dense in buckwheat husk throughout the trial period.

In 2001, the highest marketable yield per plant resulted from plastic mulch, 259 g and 205 g on average in Mikkeli and Ruukki, respectively. In 2002 there was no difference in the mean marketable yield per plant between plastic and green mass.

In 2001, the mulching material had a significant effect on the incidence of grey mould. In buckwheat husk, grey mould (*Botrytis cinerea*) infected 36 % and 17 % of the total berry yield in Mikkeli and Ruukki, respectively, in the other mulches 3-14 % and 2-7 %, respectively. In 2002, the highest percentages of grey mould infection in Mikkeli occurred in buckwheat husk, woodchips+buckwheat husk, green mass and plastic. In Ruukki, grey mould infection was low in all mulches. Fruit size was not affected by the mulching material.