



Organic crop rotation

The basic idea of the organic crop rotation is to utilize the biological nitrogen fixation of plants and control weed pressure

- An organic farm must have at least a five-year crop rotation. The conditions and subsidies for organic production are taken into account in planning the cycle.
- Based on the conditions of production, the rotation must include at least 30% of leguminous plants as main and root crops in each block.
- Based on the subsidies conditions, the sales crop area must be at least 30%, if the main part of the harvest is not used for feed for own or collectively agreed organic livestock. At least the main plant that maintains the soil's fertility and 50% of the rotation must be fertility-maintaining plants, usually grass plants, either as main, intermediate or understory plants.
- Crop rotation requirements related to plant protection:
 - Cereal crops can be grown in a maximum of three years in a row on each block.
 - Legumes, oilseeds, potatoes and other annual special crops of the same plant family can be grown for a maximum of two years in a row on each block.
- It is advisable to have sales plants evenly for each year and the amount of the field does not vary much during the cycle. On a livestock farm, the planning of the cycle starts from the need for feed. Plant protection, the basic condition of the blocks, and the weed situation must be taken into account in the planning. The number of grasses is increased with problematic blocks.
- The clover grasses in the cycle act as green fertilization, which is often sufficient for cultivated plants if no other fertilization is available. The position of the cultivated plants in the cycle is affected by the placement of the grass due to the effect of nitrogen fertilization from the grass.
- it is good to make your own rotation plans for loamy and mineral soils, as well as for pasture blocks



Calculating the portion of legumes

Example A: Four year rotation

1. year: clover-timothy grass, 2. year: summer cereal crop, 3. year: pea-cereal inter-cropping,
4. year: summer cereal crop+under crop (timothy grass)

Legume years: $1+0+1+0 = 2/4 = 50\%$

Fertility vegetation: $1+0+0+1 = 2/4 = 50\%$

The rotation meets the minimum requirements for both legume and fertility crops.

Example B: Five year rotation

1. year: green manure vegetation (mainly vetches), 2. year: summer cereal crop,
3. year: summer cereal crop, 4. year: canola, 5. year: pea-cereal crop

Legumes: $1+0+0+0+1 = 2/5 = 40\%$

Fertility vegetation: $1+0+0+0+0 = 1/5 = 20\%$

The rotation meets the minimum requirements for legumes, but not for fertility crops. The rotation can be improved to meet the requirements, for example, by using under crops with summer cereals.

Tulevaisuuden maanviljelijät



Examples from the field blocks of HAMK Mustiala's organic farm

Crop rotation of mineral soils

1. year: clover grass
2. year: clover grass
3. year: clover grass
4. year: winter cereal crop English rye-grass as under crop
5. year: fava bean/pea+cereal crop as protective crop for clover grass

Legumes $1+1+1+0+1+1 = 5/6 = 83\%$

Fertility vegetation $1+1+1+1+0+1 = 5/6 = 83\%$

The aim is to produce grain, fava beans and silage with a high winter vegetation cover.

Crop rotation of humus soils

1. year: clover grass
2. year: clover grass
3. year: clover grass
4. year: cereal crop as protective crop

Legumes $1+1+1+1 = 4/4 = 100\%$

Fertility vegetation $1+1+1+1 = 4/4 = 100\%$

The aim is to reduce carbon emissions and produce a lot of silage

Source : Ruokavirasto 2022 Kasvituotannon ehdot, <https://www.ruokavirasto.fi/yritykset/oppaat/Luomukasvintuotanto/luomukasvintuotanto/>