Melon *(Cucumis melo L.)*

French: Melon; Spanish: Melon; Italian: Melone; German: Melone

Under Temperate Conditions

Crop data

Annual, herbaceous, prostrate and branched. Many varieties are grown commercially. Normally monoecious, with male and female flowers within the same plant; fruits differ in shape, colour etc.

Growing season in Europe normally between April and September; outdoor ripening of first fruits about 90 days after transplanting or 120 days after sowing.

Yields 20-30 t/ha outdoors, 30-40 t/ha in protected cultivation.

Prefers deep soils, well supplied with organic matter, pH around neutral. Tolerates slightly alkaline or salty soils. Fairly resistant to moderate drought, but normally needs irrigation.

Requires warm temperatures and a high light intensity. Optimum temperatures: for germination, 24 °C-32 °C; for growth, night, 18 °-20 °C, and day, 24°-30 °C; and for ripening, 25°-30 °C. Minimum for germination, 13 °-15 °C. Zero growth, near 12 °C.

Nutrient demand/uptake/removal

Depends very much on yield level and growing conditions. Typical figures for outdoor crops: 50-120 kg N, 15-25 kg P_2O_5, 50-200 kg K_2O, 70-100 kg CaO, and up to 20 kg MgO per ha. Highest rate of nutrient uptake occurs 4-6 weeks after planting, i.e. some weeks before the maximum rate of dry matter accumulation.

Plant analysis data

Satisfactory concentrations at the 6-8 leaf stage are, for nitrate N, not less than 7 500 ppm in the petioles and more than 5 000 ppm in the entire leaf, and for P corresponding values are about 2 000-2 500 ppm.

Fertilizer recommendations

In soils containing at least 3 % organic matter, an irrigated crop yielding 30-35 t/ha should receive a basal fertilizer application, placed along the rows before planting, of about 100 kg N, 100 kg P_2O_5, 150 kg K_2O per ha, followed by a topdressing during fruit-swelling of 50-100 kg/ha each of N, P_2O_5 and K_2O. Topdressing is generally not recommended for unirrigated crops. Protected crops usually require three topdressings unless slow-release fertilizers are used.

Melons are very sensitive to availability of Mg; deficiency (< 0.3 % in dry matter) results in shortage of chlorophyll, browning of tissues and chlorosis of leaves. In acid soils excess of Mn can occur; a concentration of this micronutrient of >1 000 ppm in the leaves can cause problems of phytotoxicity - yellowing of leaves, brown spots on stems, and necrosis. The crop is also sensitive to low availability in the soil of the micronutrients Fe, Mo and B.