



Source: Potato | Land & Water | Food and Agriculture Organization of the United Nations | Land & Water | Food and Agriculture Organization of the United Nations (fao.org)

Watch out for:

- Watch out for pests such as aphids, root-knot nematodes, cutworms, etc. Practice crop rotation to avoid the build-up of soil-borne pathogens. Planting brassicas such as broccoli, cabbage, and mustard plants before the potato crop helps reduce the incidence of bacterial wilt and nematodes.

Potato (*Solanum tuberosum*) originates in the Andes from high-altitude tropical areas. The crop is grown worldwide but is of particular importance in temperate climates. Present world production is some 308 million tons of fresh tubers from 19 million ha. (FAOSTAT, 2001).

Yields are affected by temperature, and optimum mean daily temperatures are 18 to 20°C. Generally, a night temperature below 15°C is required for tuber initiation. The optimum soil temperature for normal tuber growth is 15 to 18°C. Tuber growth is sharply inhibited when below 10°C and above 30°C. Potato varieties can be grouped into early (90 to 120 days), medium (120 to 150 days), and late varieties (150 to 180 days). Cool conditions at planting lead to slow emergence, which may extend the growing period. Early varieties bred for temperate climates require a day length of 15 to 17 hours, while the late varieties produce good yields under long or short day conditions. For tropical climates, varieties that tolerate short days are required for local adaptation.

Potato is grown in a 3 or more-year rotation with other crops, such as maize, beans, and alfalfa, to maintain soil productivity, check weeds, and reduce crop loss from insect damage and diseases, particularly soil-borne disease. Potato requires well-drained, well-aerated, porous soil with a pH of 5 to 6. Fertilizer requirements are relatively high, and for an irrigated crop, they are 80 to 120 kg/ha N, 50 to 80 kg/ha P, and 125 to 160 kg/ha K. The crop is grown on ridges or on flat soil. Flat planting tends to give higher yields for rainfed production in dry conditions due to soil water conservation. Under irrigation, the crop is mainly grown on ridges. The sowing depth is generally 5 to 10 cm, while plant spacing is 0.75 x 0.3 m under irrigation and 1 x 0.5 m under rainfed conditions. Cultivation during the growing period must avoid damage to roots and tubers, and in temperate climates, ridges are earthed up to avoid the greening of tubers.

The crop is moderately sensitive to soil salinity with yield decrease at different levels of ECe: 0% at 1.7, 10% at 2.5, 25% at 3.8, 50% at 5.9, and 100% at ECe 10 mmhos/cm.