






The most important diseases affecting tomato crops and methods of prevention and control

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I. Abstract

The tomato (*Lycopersicon milles esculentum*) is the second most important vegetable crop globally and in the Arab world. It is an herbaceous plant belonging to the nightshade family (Solanaceae), which includes about 2000 species and 90 genera (Gerszberg et al., 2015). Tomatoes are considered an important agricultural vegetable crop, serving as both a food and processing crop, supporting some food industries and representing a significant source of national agricultural income. Despite the economic and nutritional importance of tomatoes, the local environmental and climatic conditions allow for year-round cultivation (Abdul Sadiq et al., 2020).

It is consumed either fresh or cooked and is used in many food industries, whether as a plant-based food or an economic crop of great economic importance in raising farmers' income, especially when it is grown on a large scale. Tomatoes can be used as a vegetable or served with rice and salads (Perveen et al., 2015).

Tomatoes have been found to have significant medicinal and nutritional benefits. Approximate analysis shows that fresh (ripe) tomatoes contain: 13 mg of calcium; 27 mg of phosphorus; 0.5 mg of iron; 3 mg of sodium; 244 mg of potassium; vitamin A; 0.6 mg of thiamin; 0.4 mg of riboflavin; 0.7 mg of niacin; and 233 mg of ascorbic acid (Waid and Hanna, 2012 et al., and Audrius, 2016).

II. Cultivated Area

The annual global production of this crop is estimated at approximately 152.9 million tons, valued at \$74.1 billion (Rakha, 2011). Many tomato varieties are cultivated in Iraq, differing in their growing season and ripening time, making them available in markets year-round. These varieties include Wajdan, Newton, Reema, Zahab, Randy, Yasmin, Kousa, and many others. There are different varieties, and they differ in characteristics such as ripening stage and nutritional level, as varieties grown in open fields taste better than those grown in greenhouses (Mikkelen, 2005 and Hussein et al., 2012). Tomato crops are also affected by salinity and grow in warm and humid regions (Maggio et al., 2004).

The annual tomato production in Iraq for 2017 was estimated at approximately 304,921 tons, cultivated on a total area of 55,523 dunams, with a yield of 5,492.6 kg/dunam. (Ministry of Planning, Central Agency for Statistics, 2017). Per capita consumption of tomatoes is estimated at 40-100 kg annually. Mediterranean and Arab countries are among the highest consumers of tomatoes. (Bergougnux) (2014) Tomato plants in all their growing regions are exposed to numerous agricultural pests, the most important of which are fungi, bacteria, viruses, and nematodes. Spots, blights, and wilts are among the most