
Corn (*Zea mays* L.)

Corn was cultivated in tropical America before the discovery of the American continent by the Spaniards. The Red Indians used to feed on it. The Spaniards transferred corn to their country in the sixteenth century and were interested in its cultivation. Then its cultivation moved to southern Europe. After that, its cultivation moved to Central Africa. Corn is one of the crops of the Poaceae family. It is an economically important crop because it has a dual purpose. It can be considered a better fodder crop for feeding livestock in the form of fresh green material or preserved in the form of silage. Corn grains are used in the manufacture of concentrated feed to feed sheep, cows, buffaloes and poultry. It is also rich in starch, protein, oil and some important vitamins such as vitamin E, in addition to minerals. The percentage of starch in corn grains is about 70%, protein is about 10%, and the percentage of oil in the grains is 4%. As for the green part of the plant, it is used to make idris and silage. It is considered one of the most suitable Crops for making silage when they are harvested and cut in the milky stage of the grains due to the high percentage of carbohydrates in this stage. The production of green fodder for corn varies from one variety to another, the method of cultivation, soil fertility, and crop service operations. One hectare may yield from 16 to 28 tons of green fodder. Corn is grown in Iraq in two seasons, spring and autumn. In general, it needs a warm atmosphere during its growth period, and the best temperatures for growth are during the summer season, around 25 degrees Celsius. The rise in temperatures to 35 degrees Celsius with dry weather, especially during the flowering period, leads to a decrease in the fertility rate, which leads to a decrease in grain production or a decrease in the yield. Corn cultivation is widespread in the governorates of Iraq and is concentrated in the central region in Babil Governorate. Now its cultivation is widespread in Kirkuk Governorate. Corn has many varieties, local or foreign, in addition to varieties derived as a result of Hybridization between different varieties to produce genetic hybrids. The most important varieties used to produce fodder are the local variety, Iraqi corn, which is characterized by small, round seeds that are either red or yellow in color. The plants also have small cobs and the grains are soft. The other variety is Lalton, which is an Indian variety that was selected in Iraq by the Ministry of Agriculture. It is characterized by its yellow and orange grains, which are medium in size and round in

shape. The cobs are relatively large, with the plant reaching a height of about two meters. Recently, several varieties have been developed and many types and varieties have been introduced to Iraq, including American, Dutch and Australian varieties, which are characterized by large cobs and tall plants.

Soil and crop service operations: The selected soil is prepared for corn cultivation by plowing the land, then it is irrigated so that the bushes grow. After drying, the land is plowed twice perpendicularly, then it is smoothed with discs and adjusted, then divided into holes, and the distance between one hole and another is about 75 cm, and between one hole and another is from 10 to 30 cm. The best time to plant corn in relation to the spring season is from March 15 to April 20, and it is preferable to plant early in the southern regions of Iraq. As for the fall planting date, the best time to plant it is the second half of July for the central and southern regions of Iraq, and it is preferable to plant early in the northern region. The best time to plant corn is in the fall season because it gives a higher grain yield than planting in the spring season, due to the fertilization process coinciding with the decrease in temperatures, which leads to an increase in the fertility rate of the seeds. The quantity of grains used for planting depends on the size and quality of the grains and the percentage of laboratory germination. One hectare is sufficient with about 32 to 40 kg of well-germinated grains. A hectare planted with corn needs urea fertilizer at a rate of 250 to 300 kg, as well as triple superphosphate fertilizer and potassium fertilizer. It is preferable to add nitrogen and potassium fertilizer in several batches during the crop growth stages, while phosphate fertilizer is added in one batch before planting. The irrigation process must be gentle, especially in the first planting stage, and irrigations must be successive according to the moisture of the soil and the condition of the crop. It is also recommended not to irrigate the crop during winds in order to protect the plants from rotting. The process of grain production varies according to the variety, method of cultivation, purpose of the crop, crop service operations and soil. In general, one hectare yields a quantity of grains of about four to six tons per hectare, while improved varieties and hybrids yield a quantity of grains that may reach eight tons per hectare. The harvest of the ears begins when the moisture content is 20% at harvest time and the grains are hard. The ears are harvested either by hand or by using harvesters.