Seed production:

Alfalfa is mainly grown in Iraq to produce green fodder, and seed production is a nd summer, during mid-August or a little before that. This date may not be suitable for that. We have noticed that some farmers complain about the difficulty of producing Alfalfa seeds due to the small yield per unit area, which does not exceed 200 kg per hecsecondary goal. The method followed by farmers is to leave the crop in the second or third year of its life to produce seeds after exhausting it with repeated mowing during the spring atare in the best of cases, as well as the need for workers for the purpose of harvesting, threshing, and seed cleaning. This crop is also frequently infected with the dodder parasite, which further complicates the problem due to the similarity of its seeds in size to Alfalfa and the difficulty of purifying them. Therefore, the prices of local Alfalfa seeds have risen until the price of one kilogram of it has reached about 12,000 Iraqi dinars, and this price is double the price of one kilogram of imported varieties from abroad, due to the confidence of Iraqi farmers in this local variety in terms of its production, adaptation, and resistance to diseases. Under the circumstances in the country. So we have to understand the factors affecting the production of jet seeds.

Environmental conditions:

The alfalfa crop, prepared for seed production, requires climatic conditions that are summarized in a long growing season, high temperatures during the day and night, a significant decrease in relative humidity, and the availability of sufficient sunlight. These conditions are largely similar to the climate of semi-arid regions, including Iraq. In other words, seed production for the alfalfa crop can be very successful under Iraqi conditions if accompanied by the use of scientific methods in crop management.

Cultivation method and quantity of seeds used:

The method of cultivation for seed production differs from the method of cultivation for green fodder production in terms of cultivation on spaced lines and small quantities of seeds. Studies have shown that cultivation of alfalfa at a distance between lines of 60 cm and a quantity in particular ranging from four to 12 kg per hectare gave a higher seed yield than cultivation on close lines or using the seed scattering method. Also, high seed rates lead to a

decrease in the quantity of seeds produced. The reason for the increase in seed yield is due to the plant's ability to store carbohydrates in the root area, in addition to cultivation at spaced distances. Researchers have indicated that there is a positive relationship between the food stock in the roots of carbohydrates and the production of inflorescences in the stem with an increase in the production of nectar that attracts insects to complete the pollination process, especially since the alfalfa plant is mixed pollinated.

Crop irrigation:

The field planted for seed production does not need successive and close irrigations as is the case with the field planted for green forage. The reason is that regulating and regulating irrigation during the vegetative growth period accelerates the flowering process and reduces vegetative growth during the beginning of pod formation and the seed growth and development stage, which reduces the competition of vegetative growth with reproductive components for nutrients and light. Excessive vegetative growth during the seed formation stage hinders the insect visitation process and thus affects the pollination and fertilization process.

Fertilizer requirements:

The field prepared for seed production needs fertilization, especially with phosphorus and potassium, due to the importance of these two elements in plant growth and development and in carrying out physiological processes in the most complete manner. It is also necessary not to overdo the use of nitrogen fertilizers or fertilizers that encourage vegetative growth.

The fertilizer requirements for microelements and the methods of adding them are important matters, as the importance of some microelements, especially boron, in the process of seed setting for some leguminous fodder crops has been proven, when used as a spray on the plant or added directly to the soil, as boron is one of the necessary elements for the flowering process, cell division, germination and growth of the pollen tube, and increasing the level of carbohydrates transferred to the active areas of the plant during the reproductive stage, in addition to the fact that zinc and iron play an important role in improving plant growth, as zinc is involved in activating enzymes and stimulating growth regulators, which leads to increasing the source’s ability to distribute the products of photosynthesis to the reproductive parts.

Crop age and last harvest date before seeding:

Studies indicate that the alfalfa is left for seed production in the second and third years of the crop's life. This is explained on the basis that in order for the alfalfa to produce good seed production, its roots must contain a good stock of carbohydrates. Leaving the crop in the first year leads to a significant weakening of the plants. As for the time when the crop is last harvested and released for seed, it depends on the temperature and the availability of insect pollinators, as the flowering of the crop must coincide with the peak activity of natural pollinators. It has been found that the best time to give the highest seed yield is when the last harvest date is at the beginning of May.

Harvested:

Alfalfa is harvested and cleaned manually in Iraq because the cultivated areas are often small, unlike the widely cultivated alfalfa. These operations must be done using machinery, and mechanizing the harvest of alfalfa seeds causes a loss of seeds that may reach 20%. In both cases, the seed harvest begins when the percentage of pods, which turn brown in colour and are a sign of maturity, reaches between 65 and 75%. The pods are harvested and left to dry for a few days, then threshed.