

## An Overview of Fodder Maize Cultivation in Kashmir

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Maize is one of the most versatile emerging *Kharif* crops having wide adaptability under varied agro-climatic conditions. As its yield potential is far higher than any other cereal, it is referred as the miracle crop or the 'Queen of Cereals'. It is an ideal fodder crop because of its quick growth, high yielding capability, palatable and nutritious character. It produces good quality herbaceous fodder with high digestibility.

Since the ancient times, maize straw is used as animal fodder. Even today maize is an excellent crop in terms of biomass production. Green fodder is an important component of animal husbandry. The growth animal sector primarily depends upon the availability of nutritious fodder. Amongst the non-legume cultivated fodders, maize is the only fodder which produces better nutritional quality along with good quantity of biomass and it helps increase body weight and milk quality in cattle. The high acceptability of maize as fodder can be judged from the fact that it's free from any anti nutritional components. It contains high concentration of soluble sugars in the green stage which makes it fit for preservation as silage.

### Recommended Varieties

African Tall, J-1006, Pratat Makka, Chari-6m, TSFM-1 and SFM-1

### Climatic Conditions

It is commonly grown as a summer, rainy and/or early winter fodder crop in the northwestern regions of the country. It grows well at temperature 10-40 degree C. Maize is adapted to varied soil and climatic conditions. Clayey soil or saline soil or alkaline soils are not suitable for maize crop. The crop grows well in slightly acidic to neutral soils (pH 5.5-7.5).







### Land Preparation and Sowing

Well drained loamy soils are most suitable for this crop. One operation with soil turning plough followed by two cross harrowing and leveling are adequate to get a weed free and leveled seed bed. Sowing should be done second half of April with a seed rate of 50-60 kg/ha. Seed spacing should be maintained at 30 cm.

### Harvesting

The fodder is ready between 70-80 days but for grain production it takes about 110-120 days. The yield of fodder is between 350-450 quintals/ hectare. It is a maintenance type of fodder containing 8-10% of protein. The ideal harvesting time is when the plant has reached physiological maturity and is in the full dent stage.

### Various Ways in Which Maize is Used by Animals as Feed

**Maize Stover:** Maize Stover consists of the residues of maize plants grown for grain and left in the field following the harvest. It includes stalks, leaves, husks, and cobs. Because the amount of maize dry matter left on the field is similar to the amount of dry grain produced, considerable quantities of maize stover are available. Maize stover is often considered as the best of the cereal stovers for livestock due to its higher protein and energy content. However, it remains a highly fibrous feed of limited digestibility that may require treatments to enhance its nutritional value. Physical treatments (grinding, extrusion), chemical treatments (urea, NaOH, CaO, NH<sub>4</sub>), and biological treatments with microorganisms (fungi, bacteria)



**Ensiling of maize for winters (lean period):** For animal sector to be successful there must be year round fodder supply especially during lean periods when there is scarcity of green fodder. For this, maize can be conserved as silage. Silage is fermented feed resulting from the storage of high moisture crops under anaerobic conditions in a structure called as silo. For ensiling maize forage should be harvested at 30-35% DM.

**Maize as a grain (concentrate):** Maize grain is a standard component of livestock diets where it is used as a source of energy. It is palatable and suitable for all livestock. It is the most valuable energy source among cereals. In dairy cows, it can support high milk yields. Providing adequate amounts of starch also promotes rumen bacterial growth, thus enhancing forage digestibility, rumen cycling and subsequent feed intakes. In poultry, maize is beneficial for its low fibre and relatively high oil content, resulting in high metabolizable energy values.

