

## Oats cultivation: Dual purpose, Cereal crop as well as a fodder crop

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### Introduction:

Oats are one of the crops grown during the Rabi season. It is an important Cereal crop as well as a fodder crop. Oats offer numerous health benefits like they are rich in protein and fiber, so it is helpful in reducing weight, controlling blood pressure, and increasing the power of fighting diseases. The genus *Avena* L. belongs to the family Poaceae is one of the most ancient cereal genera and includes diploid, tetraploid, and hexaploid species. Most oat species are wild, and only a few - *Avena strigosa* ( $2n = 4x = 28$ ), *A. Abyssinica* Hochst. ( $2n = 4x = 28$ ), *A. sativa* L., and *A. byzantine* C.K. ( $2n = 6x = 42$ ) are cultivated now or were cultivated in the past. Oat is of Asiatic origin; Asia Minor is believed to be an origin for oats. Common oats (*Avena sativa*) spread in 80% total oat area. *Avena abyssinica* is Abyssinian oat grown in North Africa. *Avena brevis* is short oat grown in southern Europe for green fodder. Oats rank around sixth in the world cereal production following wheat, maize, rice, barley, and sorghum.

Oats are a source of excellent green fodder and are used for making quality hay and grain has always been an important of livestock feed. Oats are grown as grain as well as forage and for fodder use, straw for bedding, silage, and chaff.



**Figure: 1. Oats crops at GPB research field ANDUA&T, Kumarganj, Ayodhya-224229**

### Cultivation of Oats

During the Rabi season, one of the crops grown is oats. It is a valuable cereal crop as well as a fodder crop. Oats have various health benefits, including being high in protein and fibre, which aids in weight loss, blood

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pressure regulation, and disease resistance. Oats can also be used to make straw or dry fodder. The cultivation of oats and wheat crops is remarkably similar. Oats grow best in temperate and subtropical areas. So, let us go through oats cultivation in-depth:

### Suitable climate

- The cold and dry climate is thought to be ideal for oat cultivation.
- It is best grown at temperatures ranging from 15 to 25 degrees Celsius.
- Rainfall should be 80-100 mm
- Sowing Temperature should be between 20-25°C
- Harvesting Temperature should be between 25-30°C

### Land selection

- Oats can be cultivated in all types of soil, but loam soil is best for its cultivation.
- P<sup>H</sup> should be between 5 to 6.6 for oats.

### Field preparation

To ensure good germination of the oat crop, the field must be well prepared. To do so, run two or three ploughs from the native plough in the field or once in the tractor-powered equipment after running the cultivator. The field should then be leveled by running the Pata. Make suitable drainage arrangements in the field.

### Advanced Oats varieties

**HFO 114:** It is also known as Haryana Oats 114. It is a high-yielding variety of 500

quintals of green fodder per hectare, which grows very fast after harvesting, usually, 2 to 3 cuts are taken.

**UPO 94:** This oat variety has a high yield, producing 500 to 550 quintals of green fodder per hectare. This variety is resistant to scorching diseases.

**NDO-1:** Light purple stem base, dark green waxy foliage, tall stature, and droopy spikelets, Resistant to lodging, non-shattering, Moderate to highly resistant against leaf blight,

**NDO-10:** Possess good plant type, high tillering ability, regeneration capacity, better green forage as well as grain yield potential being consistent topper in the group, good quality characters for feeding to animals, wider adaptability, and good grain quality character. It is moderately resistant to major diseases/ insect pests and tolerant to salt-affected soils.

**NDO-711:** Possess good plant type, high tillering ability, regeneration capacity, better green forage as well as grain yield potential being consistent topper in the group, good quality characters for feeding to animals, wider adaptability, and good grain quality character. It is moderately resistant to major diseases/ insect pests and tolerant to salt-affected soils.

**NDO-1101:** possess good plant type, high tillering ability, quick regeneration capacity, better green forage as well as grain

yield potential being consistent topper in the group, good quality characters for feeding to animals, wider adaptability, and good grain quality character. It is moderately resistant to major diseases/ insect pests and tolerant to salt-affected soils.

### Sowing of Oats

November is the best month for sowing oats for maximum yield, sowing can be done until the first week of December depending on the weather and availability of fodder.

Spacing: Spacing of 25-30 cm should be kept between rows

Method of Sowing: It is done through the drilling method, Zero tillage drill.

### Seed Rate

For Fodder: 100 kg of seeds per hectare  
For Grain: 80 Kg of seeds per hectare is

### Weed Control

- The Oat Crop left for Fodder requires less fertility because weeds do not thrive due to the high number of plants, but weed control is beneficial in crops taken for seed production.
- To Control wide-leaf weeds, spray 500 g 2, 4-D using 600 liters of water per hectare.

### Irrigation

- First irrigation should take place between 20 to 25 days following sowing.
- Drainage should be done properly.

- The amount of irrigation required is determined by the kind and temperature of the land, for good output 3 to 4 irrigation are required.
- Moisture in the fields is required for the formation of healthy seeds.
- Seed Production declines as a result of a lack of moisture.

### Harvesting

After 75 to 85 days of sowing, 50% of the oat crop can be harvested. Harvesting 50% of the crop can give about 400 quintals of green fodder. The crop produced for two harvestings should be harvested in 55 to 60 days, with the second harvesting occurring after 50% flowering. This harvest will yield around 550 quintals of green fodder per hectare. The plant should be harvested at a height of 4 to 5 centimeters. After 4-5 months of sowing, they are mature and ready to harvest.