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# DISEASES OF OATS AND THEIR MANAGEMENT

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## 1. Crown Rust

**Causal Organism-** *Puccinia coronata*

**Symptoms-** The uredial stage of the *Puccinia coronata* present mainly on the leaves and also present on the sheaths and host floral structures. These uredia appear as round to oblong bright orange yellow coloured pustules. Telia thus formed are brown to black in colour. The pycnidial and aecial stages of the fungus occurs on the leaves, young stems, petioles and floral structures of *Rhamus* (buck thorn).

**Management-** There should be eradication of *Rhamus*, an alternate host can reduce primary infection. Spray of systemic fungicides such as epiconazole, tebuconazole, propiconazole and triadimenol @ @0.1%. use of resistant cultivars i.e HJ 8 and OS 346.

## 2. Stem Rust

**Causal organism-** *Puccinia graminis*

**Symptoms-** The pustules of the uredial stage are large, usually oblong and dark reddish brown in colour. As the host plant approaches maturity, telia begin to form in and around the uredia, particularly on the culms and sheaths. Telia are also formed which is black in colour and are exposed by rupturing of the epidermis. There is considerable loss in yield and the infection due to stem rust also delays heading.

**Management -** There should be adoption of cultural practices such as destruction of alternate hosts and offseason oat plant that can delay and reduce the infection. There should be sowing adoption of resistant varieties.

## 3. Smuts –

There are two types of smuts found in oats i.e Loose smut caused by *Ustilago avena* and covered smut caused by *Ustilago kollerii*

**Symptoms- In loose smut –** the sori of the fungus formed in the inflorescence covering most of the floral parts and appearing as dark brown to black, loose, powdery masses.

**In covered smut-** the smut spore masses remain more or less intact inside the glumes until threshing time. The other diagnostic feature of this disease is the presence of a thin, whitish membrane on the spore masses of covered smut, which is absent on the spore masses of the loose smut.

**Management –** There should be adoption of disease free seed. There can also be management of smut by proper chemical seed treatment. It has also been found that diploid and tetraploid species of oats also found to show resistance against smut pathogen. Grow resistant cultivars such as OS6, OS7, HJ8 and OS 346.