

**R**ust is probably the most important foliar disease of mint worldwide, capable of causing reductions in both yield and quality. The most obvious indication of this problem is the presence of the rust pathogen itself.

The fungus forms discrete, dark brown uredinia pustules on both sides of the infected leaf. The brown urediniospores emerge in large numbers from these pustules. If infected severely, the leaf can turn yellow and defoliate. From late summer onwards, dark brown teliospores are produced on leaves and stems, with telia visible as black spots.

A systemic infection of shoots in the spring can occur if overwintering rhizomes are infected by teliospores in soil. The systemically affected shoots are swollen and distorted, with elongated chlorotic internodes and chlorotic leaves. Like many rusts, the life cycle is complex and there is even a third spore stage (aeciospores) that occurs. Aeciospores are contained within a structure called an aecium.



Rust pustules on mint



Rust aecia on eau du cologne mint

## Cultural control

- Burning off old foliage in autumn with a flame gun may control the disease but not if it has penetrated the rhizome.
- The disease may not infect all the rhizomes, so propagation from some pieces, especially the youngest, may yield disease-free plants.
- Hot water treatment may cure the problem: immediately prior to autumn planting, wash plants thoroughly, immerse the rhizomes for 10 minutes in water kept at 44°C, then cool in cold water.
- High N and low K levels are said to encourage rusts in general.
- Use resistant cultivars.

## Chemical control

- Off-label approval for the use of Signum on field and protected mint for botrytis control but also has an on-label use on rust for field beans. Rate: 1.5 kg/ha, max of 2 sprays, harvest interval is 2 weeks.