

## **Phytophthora**

A quite new infestation in peonies is known as Phytophthora. An infection which takes place through injuries under humid circumstances. The fungus can survive in plant tissue and in the soil for years. The first infestation can be recognized through black and weak leaves in the crop. When there is an infection by Phytophthora in the spring, brown to gray black spots will arise on the stem parts. In that case the branches will come up like some sort of black brackets and they will not grow further than ten centimeters. After infection it is almost impossible to remove.

Places of infection will most of the time feel spongy and soft, where the marrow will be dark brown and wet rot. Kansas and Duchesse are examples of species who are sensitive to Phytophthora.

The elements Manganese and Zinc offer resistance against Phytophthora.

To prevent this, from the moment the flower rises till the mulching, you have to spray with, for example, copper, Paraat, Moancozeb, Axidor (works systematically), or the new fungicide Ranman Top.

It's easy to confuse Phytophthora with damage from night frost. In both cases the head of the flower dies, a black brownish color arises, the flower dries out and the head will start to bend down. With damage from night frost, on the brink of diseased and healthy tissue, a cavity in the stem arises. The difference between Phytophthora and night frost can therefore easily be determined. With a serious infection, leaf nematodes can also be the cause of dead flower heads, with the difference that the head doesn't bend. In that case, small, half-formed leaves can be seen. To prevent the unnecessary use of expensive pesticides, it is wise to test suspicious plants on the presence of Phytophthora.

### **Measures:**

- Use healthy starting material;
- Care for a good soil structure;
- Avoid a soil that is too wet and ensure adequate drainage;
- Avoid a high salinity of the soil;
- While spraying against Botrytis, occasionally add a Phytophthora agent.



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