

Control of Apple and Rose Replant Diseases Using Organic Amendments

Replant disease is a significant problem in the cultivation of crops in the family Rosacea such as apples and roses. Symptoms of 'soil sickness' can occur following planting in soil which has recently been used for the same crop plant. This is evident as severe stunting in growth compared with plants growing in virgin soil that has not previously been used for growing apples or roses. The cause of replant disease is known to be biological since sterilisation of soil with heat or chemical sterilants before planting results in normal crop growth. However, field scale sterilisation of soil is not economically or environmentally viable. The exact cause of replant disease remains ill-defined, although the involvement of plant pathogens and plant parasitic nematodes has been implicated. It is well known that the amendment of soils with organic materials such as composts can suppress soil-borne plant pathogens. Microbiotech, with project partners in the UK and Norway in the projects Bioboost (EU Interreg) and CompostInWest (Norwegian Research Council), is investigating the remediation of replant disease soil using a range of organic amendments.



Rose bed showing signs of severe soil sickness



Composts in preparation for an apple replant disease experiment in Norway