

2 Virus	Virus i jordbær – diagnostikk og kartlegging
	<i>Strawberry viruses – diagnosis and survey</i>

One of the causal agents, which can reduce fruit quality and quantity are viruses. Viral diseases can reduce strawberry yield by 20-40%, sometimes up to 70-80% or the plants can even die. The use of classical molecular biological methods (grafting of indicator clones, transmission electron microscopy, PCR) suggested that the most economically important strawberry viruses are strawberry mild yellow edge virus (SMYEV), strawberry crinkle virus (SCV), strawberry mottle virus (SMoV) and strawberry vein banding virus (SVBV), especially when it occurs in mixed infections. A new study showed that infection with only SMYEV caused a reduction in the number and size of fruits ranging from 28% to 63% compared to a healthy control.

Single virus infection usually does not show any specific symptoms on these plants, but only occurs when mixed viral infections are present. Therefore, often the most effective spreaders of viruses in strawberry are growers themselves, who unknowingly distribute diseased seedlings. Detection of viral pathogens and subsequent production of recovered seedlings is a very important prevention for the cultivation of healthy cultures.

We would like to develop a more cost-efficient and sensitive method to detect strawberry viruses with q-PCR in a new KAPPA (Norway and Czech Republic collaboration) project starting from 2021. In addition, survey of strawberry viruses in Norway and identification of unknown viruses that can infect strawberry cultures will also be studied in this project.



Strawberry crinkle virus showing symptoms in a sensitive indicator host.

Please contact Dag-Ragnar Blystad (dag-ragnar.blystad@nibio.no) or Zhibo Hamborg (zhibo.hamborg@nibio.no) for more information if you want to study strawberry viruses in your master thesis.