

**Current and ongoing research  
on *Turnip yellows virus*  
(formerly *Beet western yellows  
virus*) resistance in brassicas**

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# Introduction

1. *Turnip yellows virus* (TuMV) is the most prevalent and important virus infecting oilseed rape in the UK.
2. Incidences of 100% in field crops in the UK have been recorded in a number of years.
3. As the visual symptoms of the virus can be mild and similar to those caused by other problems, most farmers are unaware of the presence of the virus in their crops and the losses they are suffering.
4. Our field trials have indicated seed yield reductions of up to 12.2% and losses in oil yield of up to 11.6%. Others have indicated yield losses of ~20% in the UK. In Australia, yield losses of 46% have been recorded.

# Research on *Turnip yellows virus* (TuYV) in oilseed rape at WHRI

1. The incidence of TuYV is being monitored over a three year period at sites in Lincolnshire, Warwickshire and Yorkshire, incidences of up to 89% have been found.
2. The genetic diversity / variation of TuYV types infecting OSR in the UK is being studied - a large number of isolates have been analysed.
3. Resistance to TuYV is being sought in a range of brassica species including *B. napus*, *B. oleracea* and *B. rapa*.

# Resistance to *Turnip yellows virus* (TuYV) in oilseed rape

1. A representative sub-set of the WHRI *Brassica napus* DFFS has been screened for resistance to TuYV.
2. Different levels of susceptibility have been found in different cultivars and lines of the *B. napus* DFFS.
3. The least susceptible line was a *B. napus* oilseed rape cultivar and we are in an advanced position to map QTLs associated with the resistance.

# Resistance to *Turnip yellows virus* (TuYV) in diploid brassicas

1. The WHRI wild *B. oleracea* DFFS has been screened for resistance to TuYV and some lines appear to be completely resistant.
2. Other available *B. oleracea* DFFS lines and *B. rapa* lines will be screened for resistance to TuYV.