

MONITORING DISEASE RACE CHANGES



The UK Cereal Pathogen Virulence Survey (UKCPVS) was set up by NIAB in 1967 to alert growers, breeders and agronomists to any important changes in the populations of important cereal pathogens.

Initially, this covered the pathogens that cause oat crown rust, oat leaf spot, wheat, barley and oat powdery mildew, barley leaf scald (*Rhynchosporium*) and wheat and barley yellow rust.

Today, the UKCPVS monitors the pathogens causing wheat yellow rust, wheat brown rust and wheat and barley powdery mildew.

A lot has changed since the early days of the survey, most notably with the recent incursion of the Warrior population of *Puccinia striiformis* f.sp. *tritici*, the wheat yellow rust pathogen.

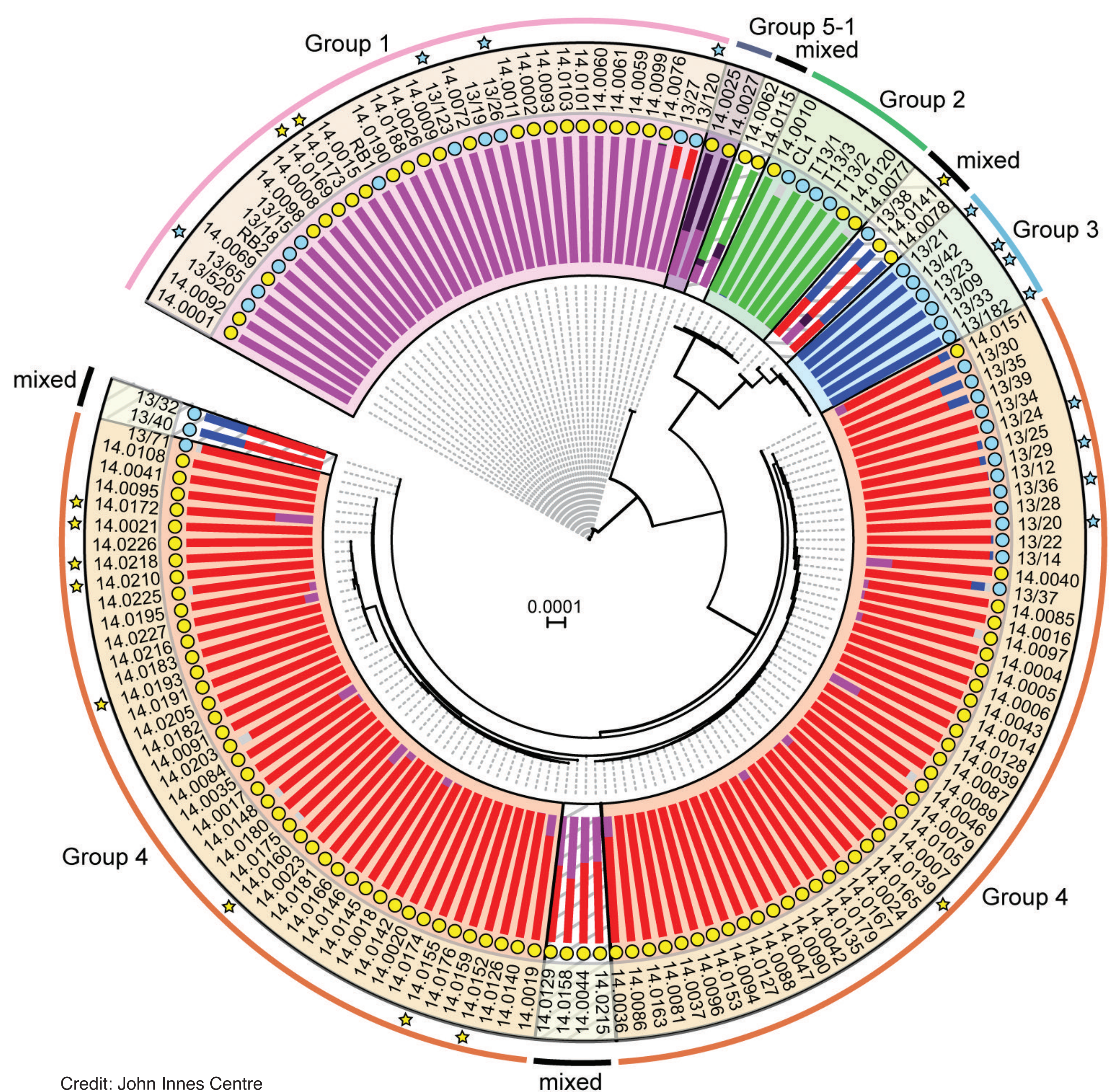
Current situation

The UKCPVS examines samples every year and although 2018 was hot and dry during the main rust and mildew season, 250 samples were received.

The good news for stakeholders is that there were no major changes for any of the diseases under investigation.

This means that varieties should perform as expected according to their AHDB Recommended List rating.

Genetic sequencing of isolates show how they are related to each other



Credit: John Innes Centre

WE NEED YOUR HELP!

Samples from any winter wheat variety can be sent via the FREEPOST UKCPVS service. It is essential that we obtain as diverse a set of samples as possible, from across the country. Rare and unusual races are often found in only sample from one location. Further details on sampling can be obtained from Sarah Holdgate (sarah.holdgate@niab.com / 01223 342200).

As always, changes can and do happen within a growing season so it is important to monitor crops carefully. Adult plant resistance should be apparent when the flag leaves are out, although many varieties which are resistant at the adult stage can show high levels of disease at the seedling stage.

Funded by AHDB and APHA, and managed by NIAB in Cambridge, the UK Cereal Pathogen Virulence Survey (UKCPVS) has been monitoring cereal rusts and mildews in the UK for more than 50 years. It provides an early warning system to growers and plant breeders of new races of disease that could overcome current variety resistance, and underpins the AHDB Recommended List disease resistance ratings.