



# Blight resistant tomatoes?

During the summer of 2011, Garden Organic members took part in a trial of blight resistant tomatoes, organised in conjunction with the Sárvári Research Trust (SRT) and Pro-Veg Seeds Ltd. Jamie Stroud and David Shaw, of the SRT, report.

Participants received seeds or plants of three outdoor bush tomato cultivars: 'Koralik', a Russian heirloom cultivar with excellent late blight resistance; 'Losetto', a new cultivar developed by Pro-Veg, with good flavour and late blight resistance; and 'Red Alert', a popular outdoor cultivar with little late blight resistance, which was included for comparison. Participants evaluated the plants' performance and, if plants suffered late blight, sent a sample to the SRT for analysis. We repeated this experiment in 2012, since in 2011 the dry weather prevented the spread of blight in many parts of the country: the causative pathogen, *Phytophthora infestans*, thrives in warm, damp conditions.

## What, no blight?

As a result of the dry weather, we received only 23 samples of late blight. Preliminary analysis suggests that at least 11 distinct strains of *P. infestans* were present on these samples, which have been used to test the resistance in the 2012 variety screening trials. Given the small sample size, this is quite a

diverse collection. Many of the samples sent in did not have blight, so this year's experiment instructions included a more comprehensive guide to identifying the disease.

## Fruit flavour and yield

Participants rated the flavour of each cultivar on a scale of 1-5, with 5 being the best. 'Losetto' led with a mean score of 3.41. 'Koralik' came second with 3.28 and 'Red Alert' achieved 3.20. Where participants recorded the weight of fruit harvested, 'Losetto' came a clear first with an average of 796g per plant, compared with 628g and 592g from 'Koralik' and 'Red Alert' respectively.

The effect of growing medium and feeding regime on flavour was examined. Growing medium was categorised as either "in ground" or "in a container of compost". The feeding regime was categorised: no feeding, organic liquid feed (nettle/comfrey tea or an organic tomato feed), non organic tomato feed, general purpose NPK, or a combination of feeds.

Surprisingly, no significant effect of feeding or growing medium on flavour

was found; perhaps because other factors, such as watering regime, light levels and temperature, are potentially more important in influencing flavour. Unfortunately, it was not practicable to control or monitor these factors.

## Blight resistance compared

Owing to the cold, dry weather, out of 130 participants who gave us feedback, only 44 reported a blight infection on any of the tomato cultivars. 'Losetto' was reported as infected in 34 cases, 'Koralik', in 30 and 'Red Alert', in 37. While there was no significant difference in the frequency of infection in the three cultivars, other trials have shown that cultivars such as 'Koralik' and 'Losetto' tend to resist the spread of infection and continue producing healthy fruit after infection. In a good year, 'Red Alert' may produce a decent yield by virtue of its earliness – ripening most fruit before blight arrives. From informal comments, most participants seemed pleased with all three cultivars.

We look forward to seeing the results from the 2012 experiment, as this has been a very different growing season.



Knowledge Economy Skills Scholarships (KESS) is a pan-Wales higher level skills initiative led by Bangor University on behalf of the HE sector in Wales. It is part funded by the Welsh Government's European Social Fund (ESF) convergence programme for West Wales and the Valleys.

The Sárvári Research Trust (SRT), based in North Wales, is a not-for-profit company that researches late blight, a common disease of both potatoes and tomatoes. The SRT has developed the highly disease resistant 'Sárpo' potato cultivars. Pro-Veg is a plant breeder that has developed tomato cultivars with good blight resistance. They have teamed up with the SRT and Bangor University, as part of a project to build on this success. Together they have successfully set up a European Social Fund supported "KESS" PhD studentship to work on blight resistance.