

Dear Spud GP

We have had a lot of rain lately, and now my leaves have gone curly! The plants also seem to have some sort of leaf blight.

Are they linked or are these two separate problems?

Wavy Dave



ASK THE SPUD GP

- By Dr Len Tesoriero

Dear Wavy Dave

Wet weather is generally favourable for a range of diseases and physiological disorders affecting leaves, stems and tubers. In this case it is probably wise to send a sample for laboratory testing as there are a few lines of investigation to determine if all the symptoms are related.

Leaf roll could be due to a virus infection by Potato leaf roll virus (PLRV) which is spread by some aphid species. There has been widespread aphid activity over the past spring so it would be important to also check for aphids on the plants. Unfortunately, potato aphid feeding can also cause leaves to roll in the absence of PLRV, so a laboratory test is required.

There are also several non-viral causes of leaves rolling. It can

occur when sugars formed during photosynthesis are prevented from translocating away from the leaves, causing starch to accumulate. Some varieties are particularly prone to this. Excess nitrogen, and extremes in soil moisture, can also cause similar symptoms.

PLRV and a bacterium (a phytoplasma causing Purple Top in potatoes) only infect the phloem in the vascular tissue of potatoes. Phloem is responsible for movement of sugars produced in the leaves down to the tubers. This explains why these pathogens cause leaves to roll. As the name suggests, Purple Top is also accompanied by a red or purple discoloration towards the margins of emerging leaves.

The fungus *Rhizoctonia* can also reduce carbohydrate translocation, causing leaf rolling and sometimes leaf

margin reddening. The disease infects the stolons, tubers and stem bases. It commonly forms a whitish growth at the stem base as well as typical brown lesions on the stolons. Both Purple Top and *Rhizoctonia* are often accompanied by formation of aerial tubers.

Finally, the symptoms on the older leaves could be early signs of infection by *Alternaria* species (which cause Early Blight, Brown Leaf Spot and Target Spot diseases), or possibly Late Blight (caused by *Phytophthora infestans*). Alternatively, wet weather can cause physical damage which can then be invaded by any number of environmental organisms leading to lesions and their premature senescence.

Contact the spud GP by emailing info@potatolink.com.au