

<vii...ONE SOIL

but the disease symptoms aren't showing in the crop. Research by Roget and Wiseman in 1995 showed the Avon soil became suppressive to soil-borne diseases after 10 years of retaining crop residues."

Sjaan is now conducting experiments to see if the *Rhizoctonia*-suppressive soil biota present in the Avon soil can be found in soils from South Australia's Eyre Peninsula, where *Rhizoctonia* is an important management issue for grain growers.

"We are seeing if the beneficial characteristics of the Avon soil can be found on Eyre Peninsula," Sjaan said. "It would be hugely beneficial to Eyre Peninsula growers if the disease was suppressed over there too."

DNA testing

Sjaan is working in conjunction with the South Australian Research and Development Institute (SARDI) root disease testing unit. There they are using DNA testing to measure populations of beneficial micro-organisms in the Eyre Peninsula soils.

Although Sjaan is still in the early stages of her research, she said early results have provided lots of new information about the *Rhizoctonia*-suppressive soil biota.

"This research will be applicable to dryland farming systems right across the southern region," she said. "These areas are afflicted by *Rhizoctonia* every year."

"The fact that Avon suppressive rhizobacteria were not transferable to Eyre Peninsula soils poses many questions. For example, what exactly is hindering the development of biological disease-suppression within these soils?"

"My results so far highlight how little is known about the complex interactions between the physical soil abiotic matrix and the soil biology, despite the importance of such interactions. My research will now focus on answering these questions."

Sjaan's PhD is supported by growers and the Australian Government through the GRDC, with further funding support from the South Australian Grain Industry Trust (SAGIT) and the Eyre Peninsula Farming Systems project.



Check for Cape Tulip control

Landholders in southern and Western Australia are advised that the coming month is the time to check for Cape Tulip development.

Nancye Gannaway from the WA Department of Agriculture and Food's Small Landholder Information Service (SLIS) said the good breaking rain was expected to result in flourishing crops of the toxic weed.

"The SLIS suggests digging up several plants of Cape Tulip in mid July and inspecting the corms for development. Control should begin before the corms begin to harden," Nancye said.

"Treatment is necessary when the old corm looks shrivelled and large fleshy roots are emerging from the base of the plant," Nancye said.

Cape Tulip is a member of the iris family, and was introduced to Australia as a garden plant, but it is now a widespread

weed in the south west of Western Australia, Victoria and New South Wales.

One leaf and two leaf cape tulip are declared and are prohibited from import. Nancye said they contained toxic chemicals which could affect the heart, and could be lethal for livestock.

"The plant remains toxic even when dry, so contaminated hay can also be a problem," Nancye said.

"Cape Tulip can be difficult and expensive to eradicate, so checking corms for development is a good first defence," she said.

"Digging up infestations is an ineffective control strategy when there are large numbers of plants. This strategy tends to spread the bulbs and landholders will find that herbicides will be more effective."

Further information on control is available in DAFWA's Farmnote 213, Control of Cape Tulip in Pasture and also Farmnote 100 Cape Tulips. ■



Cape Tulip flower.



Inspect the corms for development.



Cape Tulip – pretty but lethal for stock.