

Groundnut relatives hit the spot

For years, groundnut fields have been laid waste by devastating fungal diseases. Now, thanks to the wild relatives of the groundnut, farmers around the world can breathe easier.

A few spots on the leaves of the groundnut plant are enough to strike fear into the hearts of farmers around the world. Two fungal diseases—early leaf spot and late leaf spot—can seriously damage the plant and have a major impact on crop yields.

Groundnut is the thirteenth most important food crop in the world, the fourth most important source of edible oil and the third most important source of vegetable protein. It is grown on 26.4 million hectares worldwide with a total production of 36.1 million tonnes. Developing countries account for 96% of the land planted to groundnut and for 92% of global production.

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Clearly, coming to grips with leaf spot could have major implications for the livelihoods of poor countries.

Early leaf spot is caused by the fungus *Cercospora arachidicola*. Reports indicate that yield losses due to this pathogen can be as high as 50%. Late leaf spot is caused by *Phaeoisariopsis personata*, which has caused economic losses totalling US\$599 million in the groundnut growing areas of the world, including Asia and Africa.

Now, the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) is developing

groundnuts with resistance to the two dread diseases. Fortunately, many wild relatives of groundnut are good sources of resistance to both leaf spot diseases. By crossing wild groundnut with the cultivated type, ICRISAT scientists have already managed to produce resistant types.

Given the dynamic and ever-evolving character of diseases, ICRISAT scientists are constantly on the hunt for new sources of resistance to leaf spot. Recently, crosses of four wild peanut varieties—*Arachis stenosperma*, *A. kempff-mercadoi*, *A. diogeni* and *A. cardenasii*—yielded

progeny with resistance to late leaf spot. Thanks to its nutty relatives, it looks like groundnut is here to stay.

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Arachis diogeni, a wild relative of groundnut.

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