



Mustard - hot stuff for natural pest control



* Image courtesy – CSIRO

Modern science will put a centuries-old farming practice under the microscope at the Third International Biofumigation Symposium in Canberra from 21–25 July 2008.

Researchers, growers and Industry specialists from 22 countries will share the latest research into the use of Brassica species, such as mustard, radish, or rapeseed, to manage soil-borne pests and weeds. A technique known as biofumigation.

"Brassica plants naturally release compounds that suppress pests and pathogens, principally isothiocyanates (ITCs), which most people would recognise as the 'hot' flavour in mustard or horseradish," says CSIRO Plant Industry's Dr John Kirkegaard, the conference convenor.

"When ITCs are released in soil by green-manuring, soil-borne pests and pathogens can be suppressed and the yields of solanaceous vegetables such as potatoes, tomatoes and eggplants can be increased by up to 40 per cent in some cases.

"The technique is relevant to developed countries seeking alternatives to banned synthetic pesticides such as methyl-bromide, as well as poor farmers in developing countries who often have few alternatives for controlling serious diseases in their crops," Dr Kirkegaard says.

"It can provide economic

and social benefits, as improved crop yields lead to increased incomes, as well as a range of environmental and health benefits from a reduced reliance on fumigants and pesticides."

Using brassicas to manage soil-borne pests is not new, but modern science is providing new insights and techniques to enhance the reliability of the effect as part of an integrated pest control strategy. Brassicas can also provide other benefits to the soil as green manures.

Australian scientists are at the forefront of this area of research, in projects on tropical vegetable production systems in north Queensland and the Philippines, supported by the Australian Centre for International Agricultural Research (ACIAR), and on temperate southern Australian vegetable production, supported by Horticulture Australia Limited (HAL) using voluntary contributions from industry and matched funding from the Australian Government.

The Symposium will consist of three days of scientific and Industry presentations designed to stimulate discussions about the underpinning science, as well as the practical application of biofumigation technology in Australia and worldwide.

"The Symposium is an excellent opportunity to draw together the latest research on the subject from around the globe," Dr Kirkegaard says.