



# Research Directions

Office of Research Services

## ***Mineral spray oil helps Asian and organic growers***

Centre for Plant and Food Sciences investigators Mr Oleg Nicetic and Associate Professor Robert Spooner-Hart have received funding in collaboration with international partners SK Corporation (Korea) to test new formulations of mineral oil that will protect and defend crops from pests. The two-year project will investigate the use of mineral oil to determine its effectiveness against a range of crop pests and diseases, including brown planthopper on rice in Vietnam and China and black sigatoka in organic banana plantations in the Philippines.



'Brown planthopper is responsible for the spread of serious viral diseases that are devastating to rice production. Recently there has been a major resurgence of brown planthopper populations on rice crops throughout Asia' says chief investigator Oleg Nicetic. 'Preliminary laboratory studies show that oil does reduce brown planthopper feeding, which could lead to reduced transmission of diseases. Initial field studies also show that spray oil can improve performance of pesticides normally used against brown planthopper. As part of this study, large scale field experiments will be conducted in commercial rice paddies in Vietnam and China in collaboration with local researchers and extension officers to determine the effectiveness of oil in brown planthopper control and reduction of spread of viral diseases.

Another important opportunity for the use of spray oil is in organic farming. Management of pest populations in organic systems depends on maintaining the balance between natural enemies and pests. Therefore to be effective in an organic system, oil needs to control pests without adversely affecting the natural enemies. The research team will perform a series of bioassays and evaluations of EnSpray 99 in the laboratory to determine safe rates that can be used to maintain natural enemy populations. The oil will also be tested in field conditions on organic crops including bananas in the Philippines, almonds in Australia and vegetables in Vietnam.

It is expected that results of laboratory testing of the spray oil will allow certification of SK EnSpray 99 in Australia under the rigorous *Australian Certified Organic* system, extending the armoury of Australian organic farmers and, in turn, may allow certification for use on organic crops in the larger markets of USA and Europe.

**Project Title:** *Novel Approaches for the use of Mineral Oil in Organic Farming and for Control of Brown Planthopper (Nilaparvata lugens) in Rice*

**Industry Partner:** *SK Corporation*

Funding has been set at: \$59,890 over 2 years  
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