

## Herbs 'can be natural pesticides'

**Common herbs and spices show promise as a environmentally- friendly alternative to conventional pesticides, scientists have told a major US conference.**



Common herbs and spices could help protect crops against pests

They have spent a decade researching the insecticidal properties of rosemary, thyme, clove and mint.

They could become a key weapon against insect pests in organic agriculture, the researchers say, as the industry attempts to satisfy demand.

The "plant essential oils" have a broad range of action against bugs.

Some kill them outright while others repel them.

Details were presented at the Fall Meeting of the American Chemical Society (ACS) in Washington DC.

These new pesticides are generally a mixture of tiny amounts of two to four different herbs diluted in water.

The research was led by Dr Murray Isman, from the University of British Columbia in Vancouver, Canada.

Some spice-based commercial products now being used by farmers have already shown success in protecting organic strawberry, spinach, and tomato crops against destructive aphids and mites, Dr Isman explained.

"These products expand the limited arsenal of organic growers to combat pests," he said.

"They're still only a small piece of the insecticide market, but they're growing and gaining momentum."

Unlike conventional pesticides, these "killer spices" do not require more limited approval from regulatory bodies and are readily available.

An additional advantage is that insects are less likely to evolve resistance - the ability to shrug off once-effective toxins - Isman says. They're also safer for farm workers, who are at high risk for pesticide exposure, he notes.

But the herb-based pesticides also have shortcomings.

Since the essential oils made from these herbs tend to evaporate quickly and degrade rapidly in sunlight, farmers need to apply them to crops more frequently than conventional pesticides.

Some last only a few hours, compared to days or even months for conventional pesticides.

As they are also generally less potent than conventional pesticides, they must be applied in higher concentrations to achieve acceptable levels of pest control, Dr Isman said.

Researchers are now seeking ways of making the novel pesticides longer-lasting and more potent, he added.

"They're not a panacea for pest control," Dr Isman explained.

Conventional pesticides are still the most effective way to control caterpillars, grasshoppers, beetles and other large insects on commercial food crops, he added.

"It comes down to what's good for the environment and what's good for human health."