

SECTION VII
Foliage and Seed Feeding Pests

ADVANCES IN MITE MANAGEMENT IN COLUMBIA BASIN POTATOES

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Potatoes are one of the most widely grown crops in the United States and world. In all locations, control of arthropod pests are considered either production limiting or a major concern, however, mites are considered a pest of potatoes only in the Pacific Northwest. In excess of 95% of miticide applications in the PNW are made in the Columbia Basin. With the recognition of beet leafhopper as an important pest of potatoes and the introduction of potato tuberworm and the increase in problems associated with cabbage looper and thrips has resulted in a dramatic shift in insecticide use patterns and overall use of insecticides on potatoes in the region. Growers are increasingly shifting away from planting time treatments to foliar applications and significantly increasing the number of foliar applications of insecticides. In the Columbia Basin of Oregon and the lower Columbia Basin of Washington, growers commonly applied 10 or more insecticides during the growing season. This change in use practices greatly increases the likelihood that mite outbreaks will occur. Data will be presented showing which commonly used potato insecticides are closely associated with mite outbreaks.

Historically, propargite (Comite) was the product of choice. In 2005, spiromesifin (Oberon) was registered for use on potatoes. Bifenazate (Acramite) is expected to be registered for use on potatoes in 2006. Hexythiazox (Onager) is expected to be registered on potatoes by 2007. Use restrictions on Agri-Mek (abamectin) are expected to be modified allowing the product to be more easily used on potatoes. Additionally, generic abamectin is expected to become available soon, reducing the cost of the product, making its use more attractive to growers. Soon growers will have access to four miticides for use on potatoes.

These products differ in modes of action, efficacy, price, method of application, spectrum of control and activity against life stages. A series of trials involving the products was conducted over the past three years. Data on efficacy, period of residual control and method of application have been generated for Comite, Oberon, Acramite and Onager. Information will be presented on how best to develop a mite management program on potatoes.