Ecologically-based IPM Package for open field tomato production in Uzbekistan

Central Asia Integrated Pest Management Collaborative Research Support Program:
Dr. Barno Tashpulatova, IPM CRSP Coordinator/Research Fellow, Uzbekistan;
Dr. Frank Zalom, University of California-Davis; Dr. Ravza Mavlyanova, AVRDC/World Vegetable Center.

IPM packages deliver food security

For the past 5 years IPM CRSP researchers have been developing sets of agricultural practices for wheat and vegetable production in Central Asia. The anticipated outcome is improved plant health, reduced pesticide use, and a resulting increase in production and food security along with farmer income.

By partnering with scientists, educators, outreach specialists, and farmers in the region, the IPM CRSP is working to improve the livelihood and food security of people living in poverty in Tajikistan, Uzbekistan, Kyrgyzstan and the surrounding area.

An IPM package is a set of practices and technologies that can be used in production to increase yield and reduce pesticide use. Key pests in open fields are fruitworms, cutworms, tomato russet mites, leafminers, aphids, nematodes, bacterial spot, early blight, macrosporium leaf spot, late blight, damping-off, top rot of fruit, septoria blight, tobacco mosaic virus, potato virus–X, mild mosaic, cucumber mosaic virus I, single virus streak, stripe, and tospoviruses. Potential IPM practices to reduce these pest problems include:

Soil or seed treatments

Trichoderma lignorum can be released on the soil before planting to help control soil borne fungal and bacterial diseases.

Grafting on resistant root stock

Grafting on resistant root stock offers Fusarium disease control.

Biological control

Encarsia can be released for biological control of whiteflies, and *Trichogramma* and *Bracon* for biocontrol of fruitworms. Biopesticide options are neem, nucleopolyhedrosis virus, *Verticillium*, *Beauveria Bassiana*, *Metarhizium* and others.

Cultural control

Mulching in the crop conserves moisture and helps with disease control. Removing disease-infected plants stops further spread.

Monitoring for pests

Placing yellow sticky traps in the field helps monitor for whiteflies and aphids and assist in control decisions. Pheromone traps can be used to monitor for tomato fruit worm, and blue sticky traps for thrips.

For more information

www.ipm.msu.edu/central-asia.htm

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