

outbursts

● a monthly publication of outreach and international affairs

spotlight on integrated pest management

volume 4, issue 5

7 tips to keep pests out of your garden

You can do it naturally, IPM Innovation Lab and Extension experts say

By Amer Fayad
and Allen Straw

Maybe you're one of those backyard gardeners who can't wait to get dirt under their fingernails. Now that we're past the season's last freeze, your motivation should be high!

Maybe this year you'll consider doing something different – taking a step in the direction of a garden that is less toxic and more natural.

Virginia Tech experts can help you get there. The university's agriculture scientists work overseas to prevent millions of dollars in crop damage – all by teaching practices known as integrated pest management. Closer to home, agents at Virginia Cooperative Extension work with commercial growers as well as backyard gardeners to spread some of the same seeds of knowledge.

Based on our work in Asia, Africa and Latin America – as well as the commonwealth – we've come up with seven top tips.

1. Insects are your friends. So-called beneficial insects eat the pesky six-legged creatures that feast on your veggies and fruits. Familiarize yourself with the shape and color of the garden-friendly lady beetle, lacewing larva, praying mantis, ground beetle, robber fly, assassin bug and others so that you don't kill them by mistake. (To



Beneficial insects and spiders such as those pictured here are your allies.

- that end, don't indiscriminately spread poisons around, either.) Spiders are also excellent at keeping unwanted insects at bay.
2. You have a lot at stake when you plant a garden, so don't forget the stakes. Trellises, cages and stakes are great ways to keep plants and leaves from trailing on the ground, where they become vulnerable to diseases and insects. Mulch is another practical aid to keep soil off your plants. Dirt isn't a dirty word, but keep soil in its place!
3. Mimic nature's timing – water your plants in the early morning. Dew clings to plants in the morning, so that's when they're accustomed to being wet. If you get the watering out of the way early, your plants won't be drenched later in the day, when they're sunning themselves. Practice drip-irrigation if you can.

continued on back

4. Try a beneficial fungus called *Trichoderma*. In the United States, this unsung microbial agent is underutilized. But overseas, Virginia Tech scientists unleash this tiny hero as a parasite to scarf up other fungi before they can attack and destroy crops. Using *Trichoderma* as a soil amendment reduces harmful microorganisms and can give roots a boost, leading to more bountiful harvests.
5. Invest in floating row covers. In our international work, we often use netting. More common in the United States: employing fabric as an insect barrier. Floating row covers are often used to protect warm-weather plants from the first fall frosts. But they can also discourage marauding insects and even small rabbits or chipmunks. The lightweight fabric is placed directly over plants, protecting them from cucumber beetles and other pests for at least the first three or four weeks or until flowering. No need for a hoop or a tunnel. Simply anchor the fabric against the wind. Short hoops can be used when netting or other covering is employed to protect transplants such as tomatoes and peppers.
6. Practice interplanting. Instead of grouping plants together, vary the rows. This should slow the spread of insects or disease. You can also throw in some marigolds, which attract beneficial insects, though don't expect miracles.



Fayad tries his hand at weighing long beans during site work in Nepal.

7. Don't underestimate the power of your two hands. Wrap plant stems with aluminum foil near the soil line – this can shield tomatoes and peppers from cutworms. Pick off insects by hand. Set traps for slugs. If you see an infected leaf, remove it and dispose of it outside the garden. Clear out any vegetative refuse at the end of your gardening session.

until after they've wormed their way into your precious patch of earth.

Amer Fayad is the associate director of the Integrated Pest Management Innovation Lab at Virginia Tech. Allen Straw is a specialist with Virginia Cooperative Extension focused on horticulture, small fruit and specialty crops.

At this point it may be time to stop reading and start weeding. If you've had your fill, get out and till. Just remember: On any continent, "prevention" is often a key word. It's easier to deal with unwanted problems by heading them off rather than waiting

*Muni Muniappan, who directs the USAID-funded Integrated Pest Management Innovation Lab at Virginia Tech, is frequently in the news. His latest headline-making project involves employing computer modeling to stop the spread of a destructive moth. Data on the insect (*Tuta absoluta*, the tomato leafminer) and its environment will be crunched alongside information about the movement of goods and people. The analysis is expected to help predict where the insects will appear next. The project is funded by USAID and undertaken in partnership with the Biocomplexity Institute of Virginia Tech.*



www.outreach.vt.edu

For information on the Integrated Pest Management program, contact:

Office of International Research, Education, and Development

526 Prices Fork Road (0378)
Blacksburg, VA 24061
540-231-6338
www.oired.vt.edu

■ Van Crowder, executive director
540-231-6338
vcrowder@vt.edu

Outbursts is a publication of Outreach and International Affairs
Guru Ghosh, vice president
Karl Markgraf, associate vice president for international affairs

Editorial and graphics staff
Andrea Brunais 540-231-4691
Keith Pierce 540-231-7966
Rich Mathieson 540-231-1419