It's OK to bug this guy

North Central Research and Outreach Center introduces entomologist Chris Philips

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He might tell you there are bugs in the raspberry you just threw into your mouth. "But if you don't know they're in there, act like you didn't know. It will still taste like a raspberry. We just have to convince people it's OK to eat fly larvae."

That is the professional advice of our new local entomologist, Chris Philips. His wise-crack advice, "They're just protein-fortified raspberries - creative marketing!"

An oversized plastic insect is one of the first things to fill Philips' new desk at the University of Minnesota's North Central Research and Outreach Center (NCROC) just east of Itasca Community College. Philips has been in town a little more than a month and he's already fielded many cranky questions.

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The staff at NCROC are excited to have an entomologist in town. As one of the northernmost research centers in the country, they view the addition of Philips as an exceptional new opportunity to learn about how pests are affecting high tunnel growing in this northern climate zone.

"With the addition of Chris, we'll need to find a way to get rid of them," says Philips of the bugs that he's found in the raspberries at NCROC greenhouses.

In fact, a big reason Philips is here is to investigate the effects of the Spotted Wing Drosophila (SWD), or Drosophila suzukii as it is known in scientific circles. And the moment he started at NCROC, he started looking for the SWD armed with a microscope and camera.

The SWD is an invasive insect pest of berries and other fruit crops and is native to Asia. It was first found in California in 2008 and is currently found in most fruit growing regions of the U.S. In 2012, SWD was confirmed in Minnesota counties and this year it has been found in 40 of the state's counties.

With the shorter growing season in the Northland and increase in popularity of high tunnel gardening, Philips goal is to determine how SWD and other pests are hindering our crops.

"I've been working close with the horticulture department to find a balance between growing a good crop and controlling pests," said Philips as he explained that many insects play an essential role in the growth of plants. "I see the entomologists asking the heads like, 'What's wrong with this guy?'"

Philips also addressed the close relationship between bugs and our hunting and fishing culture here in northern Minnesota, with insects a significant food source for game birds and fish.

"It's a different way of thinking aside from the thought that the only good insect is a dead one," said Philips. "Many people don't know the link between insects and what we eat."

Another view of the world of bugs is what Philips is bringing to this area on top of looking at the susceptibility of different fruits to the SWD fly. "It attacks developing fruit so it looks like you have marketable produce but it has a bunch of larvae in it," explained Philips. "Where we've been reactive but we need to be proactive. Like with high tunnels, we didn't think pests would be an issue. As high tunnels get more popular, we know they are coming - it's just a matter of when and understanding how they develop in high tunnels."

According to Philips, the SWD loves small fruit flies we may occasionally see flying around overripe bananas in our kitchen counters.

"However, unlike these other flies, which typically feed on overripe or deteriorating fruits, the SWD feeds on healthy, intact, ripening fruits. In particular, the SWD will feed on thin-skinned, soft fruits such as raspberries, blackberries, blueberries, strawberries, grapes, plums and cherries," he explained. "Female SWD use a saw-like egg laying structure to lay their eggs in ripening fruits. The larvae of the SWD then feed within the fruits causing brown, sunken areas. It is possible that larval feeding symptoms won't show until after the crops are harvested and sometimes not until the fruits are in possession of the consumers."

Multiple generations of SWD can occur in a year, with populations building throughout the summer. The overwintering stage of the SWD is the adult; consequently, its ability to survive Minnesota winters remains unknown.

"More research in Minnesota will be necessary to determine the extent of overwintering success in Minnesota."

Philips will be studying the SWD as it relates to this growing climate and his focus will be on fruits and vegetables. He will also be teaching online classes on entomology for the university. He will be available to work with area growers and researchers as well.

"A big goal is to educate people, so this is a perfect opportunity," said Philips who acknowledged that he is OK with people "bugging" him and he can be reached for questions at 218-327-4400, ext. 2005.