

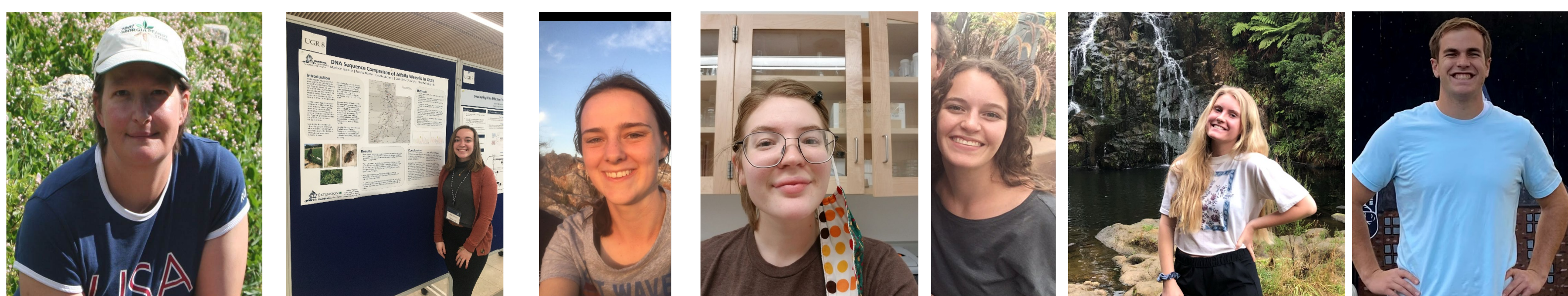


NISCHWITZ LAB

Plant pathology



WHO WE ARE



Lab members: Claudia Nischwitz, Madison Spencer, Liz Hansen, Katie Michaels, Rebecca Woodbury, Savannah Gleeson, Tim Miller

CURRENT PROJECTS

- Management of bacterial bulb rot in onion
- Use of UAVs for early detection of field and plant disease problems
- Management of hemp diseases
- Identification of vegetable pathogens in Utah
- Survey and identification of leaf miner in Utah
- Identification and management of cut flower diseases



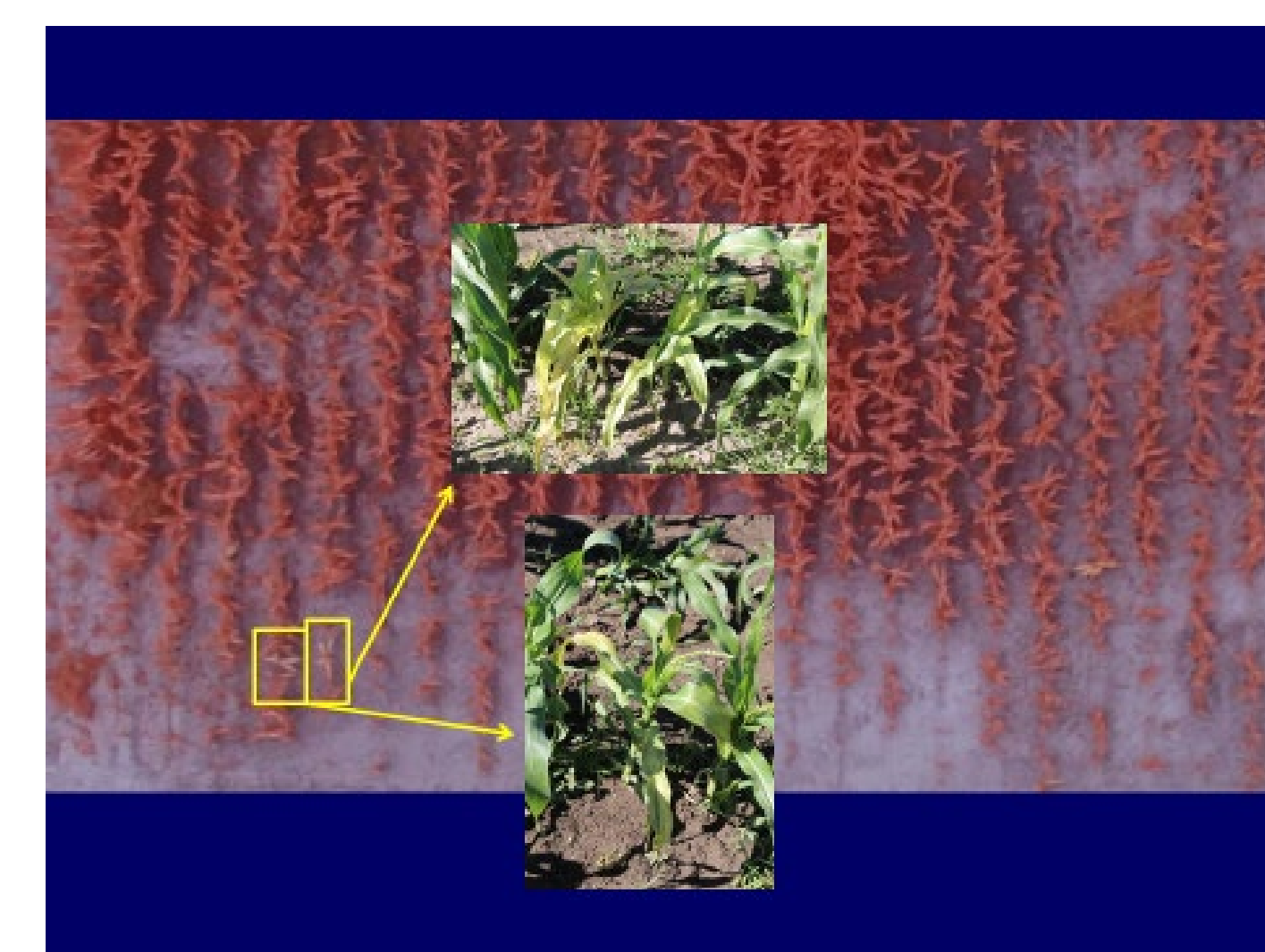
Brown rot of peaches



Tobacco mosaic virus on tomato



Tomato spotted wilt virus on pepper



RESEARCH INTEREST

- Detection, identification and management of plant pathogens (viruses, bacteria and fungi)
- Plant disease diagnostics

RESEARCH MILESTONES

- Identification of new leaf miner species in Utah.
- Identification of ten plant pathogens new to Utah or new hosts for pathogens in Utah in the last five years.

TECHNIQUES/APPROACHES

We use many different techniques. Fungi and bacteria are isolated and grown in culture. Identification is done by morphology and molecular tools (PCR and DNA sequencing). Viruses are detected by antibody based ELISA tests and molecular tools. Management of plant pathogens is conducted in field trials and the Kaysville research farm or grower fields. Occasionally testing can be done in the lab or greenhouse.



Botrytis neck rot



Zebra chip disease



Fire blight

RECENT PUBLICATIONS

Nischwitz, C. 2020. Seed-transmitted Wheat mosaic virus in sweet corn. *Plant Health Progress*, 21(3), 212-213.

Barney, K., & **Nischwitz, C.** 2020. First report of powdery mildew (*Sawadea bicornis*) on bigtooth maple (*Acer grandidentatum*). *Plant Disease*, 102, 1541.

Kiss, L., Kovacs, G., Boka, K., Bohar, G., Bohame, K., Nemeth, M., Takamatsu, S., Shinh, H.-D., Hayova, V., **Nischwitz, C.**, Seier, M., Evans, H., Cannon, P., Ash, G., Shivas, R., & Müller-Schärer, H. 2018. Deciphering the biology of *Cryptophyllachora eurasiatica* gen. et sp. nov., an often cryptic pathogen of an allergenic weed, *Ambrosia artemisiifolia*. *Scientific reports*, 8, 14

Nischwitz, C., Chitrampalam, P. and Olsen, M. 2013 *Ceratobasidium* Root Rot: A New Disease of Watermelon in Arizona. *Plant Health Progress* doi:10.1094/PHP-2013-1125-01-BR

Nischwitz, C. and Dhiman, C. 2013. Streptomycin resistance of *Erwinia amylovora* isolated from apple (*Malus domestica*) in Utah. *Plant Health Progress*. doi:10.1094/PHP-2013-1025-01-RS.

Nischwitz, C., Skantar, A., Handoo, Z.A., Hult, M.N., Schmitt, M.E. and McClure, M.A. 2013. Occurrence of *Meloidogyne fallax* in North America, and molecular characterization of *M. fallax* and *M. minor* from U.S. golf course greens. *Plant Disease* 97:1424-1430

Nischwitz, C., Srinivasan, R., Sundaraj, S., Mullis, S., McInnes, B. and Gitaitis, R. 2012. Distribution and survival of Iris yellow spot virus in spiny sowthistle, *Sonchus asper* (L.) Hill. *Plant Disease* 96: 1165-1171

SUPPORT

Utah Dept. of Agriculture and Food
USU Extension
Utah Agriculture Experiment Station
Various USDA NIFA agencies



Root-knot nematodes on carrot