NC STATE UNIVERSITY
Horticultural Science

College of Agriculture and Life Sciences
Department of Horticultural Science

cals.ncsu.edu/hort_sci/

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Candidate review will begin on **December 20** and close on January 15

Starting Date Fall 2025

The VanLab at NCSU is aimed at understanding the genetics of rapid evolution in plants using field, greenhouse, lab, and bioinformatic approaches. We use weeds and invasive species as models with the twin goals of developing basic evolutionary understanding and improving weed management. More info about the lab: avanwallendael.github.io.

We aim to recruit a talented and curious graduate student (Master's or PhD level) with a background in plant biology, weed science, evolutionary biology, plant breeding, and/or genomics. Our lab is relatively new, but we are building a dynamic, diverse, and interactive team. The lab and the NCSU graduate community as a whole are dedicated to both personal support and scientific excellence.

Grant funding in support of this position is tied to the PopuWeed project, a multi-year effort started in 2024 to monitor genomic changes in agricultural weed populations. Inspired by long-term eco-evolutionary research projects such as the E. coli LTEE, Project Baseline, and the Park Grass experiment, PopuWeed will use pooled whole-genome sequencing to evaluate factors that determine the rate, direction, and parallelism of weed evolution over multiple species, sites, and years. The successful candidate for this position will be expected to work toward goals within the PopuWeed project, but will have the freedom to design and pursue additional projects of their interest. Examples may include questions focused on weed genetics such as: "Do different species of weedy grasses exhibit similar resistance mechanisms to paraquat?" Or evolution-focused questions such as: "Does dioecy confer an adaptive advantage in weedy amaranths?" Another major focus of the lab is on crop-related weeds, so a student may consider projects related to diverging adaptive pressures on weediness and domestication in systems such as millet, rice, sorghum, and sweet potato.

The lab is based primarily in the Horticulture Department, but students may apply to the Crop Science or Genetics Graduate programs. Students may also consider the Genetics and Genomics Scholars program, which provides project-based training in genomics in the first year of grad school. Graduate students in NCSU's College of Agriculture and Life Sciences typically complete a Master's degree before proceeding to a 3-4 year PhD. For any of these options, however, the first step will be to send your **CV and a short letter of interest** or cover letter to Acer VanWallendael at avanwal@ncsu.edu.

Graduate School Application Deadlines:
Horticultural Sciences: January 15
Crop Science: March 1 (USA applicants up to June 25)
Genetics: December 31
Genetics and Genomics Scholars: January 15