

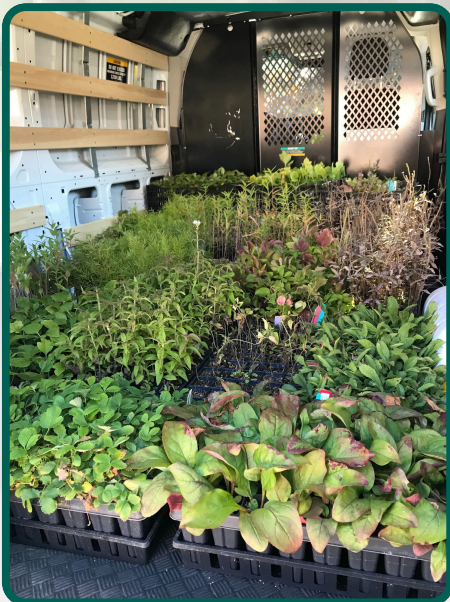


Plant Provenance Experiment Fall 2024 Updates

Hello!

Welcome to our first official update on the plant provenance experiment - a three-year study designed to answer the question **“Does plant provenance (i.e., the geographic source of seed) influence a plant's resilience and ability to support pollinators?”**. The team has been busy this summer and fall getting 1080 seedlings in the ground in our 6 community gardens across the Upper Valley of Vermont and New Hampshire. Check out this [blog post](#) to learn more about our field season, and keep reading for a summary of our progress in 2024 and our plans for 2025.

Warm Regards,
Desiree and the Plant Provenance Team.



A UHAUL TRUCK FULL OF BABY PLANTS

Growing seedlings

Our colleague and nursery manager, Alexis Doshas, and the Native Plant Trust Seed team successfully grew 3,034 seedlings for us at the Nasami Farm Nursery in Western Massachusetts. Some of the species were more difficult to grow than others and will need to be sown again this winter to ensure we have enough for our garden plots. Staff technician Amber Jones and Desiree Narango had a blast driving a uhaul truck down to Nasami to pick up our plugs.



To learn more about Native Plant Trust, visit www.nativeplanttrust.org

YEAR ONE ACHIEVEMENTS

In 2023-2024 we were incredibly busy getting ready everything ready for installing our common gardens.

Seed Sourcing

In fall/winter of 2023 we successfully sourced seeds from **twelve native perennial species across three ecoregions**. This was no small task! Finding seed with known origins that haven't been in cultivation for extended periods turned out to be difficult for some species and regions. We are grateful to all of our seed sources that answered our questions and helped us find other sources. Our seeds ultimately came from three main ecoregions: The Northeast, the Midwest, and the Southeast. You can see the full list of species [here](#).



PI DESIREE NARANGO AND STAFF TECHNICIAN AMBER JONES FINALLY MEET UP WITH THE NASAMI FARM TEAM DURING PLANT PICK UP DAY



PLANTING IN PROGRESS AT HARTLAND PUBLIC LIBRARY WITH AMERICORPS SERVICE MEMBERS ONOME OFOMAN AND MADELYN CLEM



HAPPY VCE FIELD TEAM AFTER A LONG DAY OF PLANTING AT BILLINGS FARM

Preliminary Data Collection

The majority of our data collection will take place once our plants are established in the ground. But we've started to collect some preliminary data to better understand how these six locations vary. Three of our gardens were located on land that was previously turf lawn, and three locations were located on land that was previously a mix of native and non-native wild plants.

Soil Conditions: We sent soil samples off to the University of Vermont Agricultural and Environmental Testing Lab to get our soil conditions assessed. Not surprisingly, our six locations varied quite a bit in plant nutrients, soil pH, and organic matter from low available to excessively high. Fortunately, none of our locations had high heavy metals in the soil.

Abiotic Conditions: We installed the TMS-4 soil and air measurement system to continuously monitor temperature and moisture at our six gardens. These data loggers will help us to monitor growing conditions in the field and understand responses of the plants to periodic drought or excessive heat next summer.

Garden Plantings

In April 2024 we were incredibly fortunate to receive three-years of funding from the One Hive Foundation to implement our common garden experiment.

We set to work in July planning our garden design, gathering permissions, and picking up materials to get these gardens in the ground. We found six perfect locations across the Upper Valley of VT and NH that varied in environmental context to assess how well these plants do in different conditions.

In September 2024 with the help of 12 volunteers and VCE staff, we successfully planted 1,080 individual plants across the six 225 m² garden plots. The plants are thriving so far, and because of the unseasonably warm weather we even have some flowering in the first year!

We are grateful to Vermont Institute of Natural Science (VINS), Billings Farm & Museum, Cedar Circle Farm, Dartmouth Farm, Sunrise Farm and the Town of Hartland, for graciously offering to host our garden plots, and for assisting us with this ambitious experiment.



GRAY GOLDENROD (*SOLIDAGO NEMORALIS*) CONTINUES TO BLOOM AT OUR SITES INTO NOV



THE TMS-4 DATA LOGGER

ADOPT A PLANT COMMUNITY SCIENCE PROJECT

Receive free native plants and help us study pollinator visitation right in your backyard!

Open to residents of VT, NH and MA

We are looking for over 400 volunteers to help us examine the relationship between pollinators and native plants from different ecotypes. No experience is necessary, we will train you!

Visit bit.ly/vce-adopt-a-plant to sign up.



VISIT [HTTPS://BIT.LY/VCE-ADOPT-A-PLANT](https://bit.ly/vce-adopt-a-plant) TO SIGNUP

'ADOPT A PLANT' COMMUNITY SCIENCE PROJECT

What do you do when you have >2000 extra native plant plugs? You give them away to friends of course. :)

We are delighted to introduce a new community science project that offers individuals across Vermont, New Hampshire and Massachusetts the opportunity to actively participate in the study. Participants will be given a set of plants to watch and care for until they bloom, then conduct weekly 5-minute watches per plant to record the number and type of pollinators that visit while the plants are blooming. The data will contribute to our plant provenance experiment by providing us with data from various locations and ecosystem types. Sign up at <https://bit.ly/vce-adopt-a-plant>.

We're excited to use this opportunity as a springboard for building a community of 'backyard scientists' interested in contributing to our understanding of plant-insect interactions.

THE PLANT PROVENANCE TEAM



Desiree Narango, Ph.D.
Conservation Scientist & PI



Ryan Rebozo, Ph.D.
Director of Conservation, co-PI



Onome Ofoman,
AmeriCorps Service Member



Amber Jones,
Staff Technician

YEAR 2 OBJECTIVES

2025 will be a busy one for us! Here's a sneak peak of some of the data collection and activities next year.

1. Collect data on plant growth, survival, and phenology (e.g., timing of flowering and seed set).
2. Monitor plants for pollinator visitation and herbivorous insect support. Trial new methods for automated monitoring of insects visiting flowers.
3. Assess resource quality by analyzing macronutrients in nectar and pollen.
4. Expand our study across the region and in different environmental contexts through the 'Adopt a Plant' community science project.

IT TAKES A VILLAGE

We'd like to extend our gratitude to all our garden host sites (Vermont Institute of Natural Science, Cedar Circle Farm, Billings Farm and Museum, Dartmouth Farm, Sunrise Farm and the town of Hartland, VT), our seed sources across the ecoregions (Southeastern Grasslands Institute, Roundstone Seed, Hayefield Nursery, NC Botanical Garden, Ernst Seed, Tallgrass Prairie Center, Prairie Moon Nursery, and Shooting Star Seed), our program partners at The Native Plant Trust, our funders at The One Hive Foundation and volunteers who have dedicated their time and effort to support our research. Your contributions are truly valued and appreciated! Regular updates on the experiment's progress will be provided as it unfolds. In the interim, we encourage you to explore our website or follow us on social media platforms for additional information.