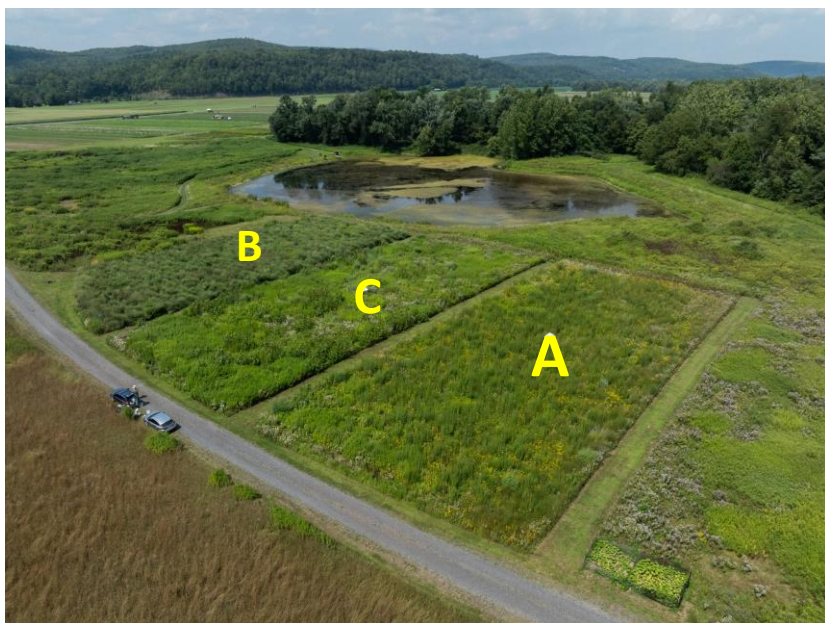


Native Meadow Trials at the Hudson Valley Farm Hub

Full Report: <https://hvfarmscape.org/agroecology>

Questions: Claudia@hawthornevalleyfarm.org



- **Design:** 3 x 3 half-acre plots
- **Treatments:** A = native wildflower-rich seed mix; B = native grass seed mix; C = fallow control; see reverse for seed mixes
- **Seeded:** May 2017 onto tilled fields (former corn/soybean or vegetables; cover-cropped with rye in 2016)
- **Management:** in summer 2017, repeated mowing to 12 inches; 2018-2020, some selective weeding; since 2021 a single early spring mowing to cut back the Cottonwood trees; the meadows are allowed to go to seed and remain untouched through the winter
- **No use of herbicides!**
- **Botanical Monitoring:** Annual documentation of vegetation composition and of flower abundance across the seasons

What did we learn?

- It is possible to create and maintain seeded wildflower meadows on former farm fields without the use of herbicides
- After a quite “weedy” first season, the seeded plants established well
- The plant composition in the wildflower-rich plots continues to evolve (goldenrods are becoming more common), but native plant diversity is still high eight years after seeding
- After slow establishment of the native grasses, the grass-rich plots have been dominated by Switchgrass and Big Bluestem for the last four years.
- Peak flower abundance has diminished over the years, but flower availability has become more even throughout the season

Open Questions:

- Will the annual early-spring cutting be adequate to keep the Cottonwood from spreading further?
- Will Mugwort remain at low density?
- When and how shall we begin to discourage the further spread of goldenrods in order to maintain overall plant diversity and season-long flower availability?

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Seed Mixes seeded in May 2017

Wildflower-rich Seed Mix A:

Common Name	Scientific Name	Native Range	Percent of mix by volume (seed/ft2)	Comment (2024)
Blackeyed Susan ¹	<i>Rudbeckia hirta</i>	Eastern and Central NA, maybe not NYS	6.5%	dominant in first two years, now almost gone
Browneyed Susan ¹	<i>Rudbeckia triloba</i>	Eastern NA, prob. only parts of NYS	2.2%	persisting in low numbers throughout
Butterfly Milkweed ¹	<i>Asclepias tuberosa</i>	NYS, etc.	1.1%	very sparse
Common Milkweed ¹	<i>Asclepias syriaca</i>	NYS, etc.	1.1%	very sparse
Dense Blazingstar ¹	<i>Liatris spicata</i>	Eastern NA, prob. not NYS	1.1%	sparse, almost disappeared
Early Goldenrod ¹	<i>Solidago juncea</i>	NYS, etc.	3.2%	steady increase in first 7 years
Joe Pye Weed ²	<i>Eupatorium purpureum</i>	NYS, etc.	1.0%	never germinated
Lance Leaved Coreopsis ¹	<i>Coreopsis lanceolata</i>	Eastern and Central NA, not NYS	8.6%	quite common in first two years, almost disappeared since
Lavender Hyssop ¹	<i>Agastache foeniculum</i>	Midwest	8.6%	sparse
Little Bluestem ¹	<i>Schizachyrium scoparium</i>	NYS, etc.	19.4%	slow to get established, but present throughout
Mistflower ¹	<i>Eupatorium coelestinum</i>	Eastern NA, prob. not NY	6.5%	peaked in 2nd year, now sparse (mainly along edges)
Narrowleaf Mountainmint ²	<i>Pycnanthemum tenuifolium</i>	NYS, etc.	3.8%	not common, but persisting throughout
New England Aster ¹	<i>Aster novae-angliae</i>	NYS, etc.	2.1%	increase in first 4 years, stabilized
Ohio Spiderwort ³	<i>Tradescantia ohioensis</i>	Eastern and Central NA, prob. not NY	2.2%	slow to get established, quite common since 2022
Partridge Pea ¹	<i>Chamaecrista fasciculata</i>	NYS, etc.	2.2%	quick establishment, persistent, but not common
Purple Coneflower ¹	<i>Echinacea purpurea</i>	Eastern NA, prob. not NY	4.3%	quick establishment, persistent, but not common
Purple Prairie Clover ¹	<i>Dalea purpurea</i>	Central NA, not NYS	2.2%	rare, most visible in 2024
Roundhead Lespedeza ²	<i>Lespedeza capitata</i>	NYS, etc.	1.1%	slow to establish, low density, but still increasing
Showy Goldenrod ¹	<i>Solidago speciosa</i>	NYS, etc.	2.3%	steady increase in first 7 years
Slender Lespedeza ¹	<i>Lespedeza virginica</i>	NYS, etc.	2.1%	slow to establish, low density, but still increasing
Smooth Blue Aster ¹	<i>Aster laevis</i>	NYS, etc.	2.1%	persisting in low numbers throughout
Tall White Beardtongue ⁴	<i>Penstemon digitalis</i>	NYS, etc.	9.7%	sparse throughout, most common in wet spot
Wild Bergamot ⁴	<i>Monarda fistulosa</i>	NYS, etc.	6.7%	peaked in 4th year, declined since; might be stabilizing since 2023
Seed Sources: 1) Ernst Seeds; 2) Prairie Moon; 3) Prairie Nursery; 4) Pinelands Nursery				

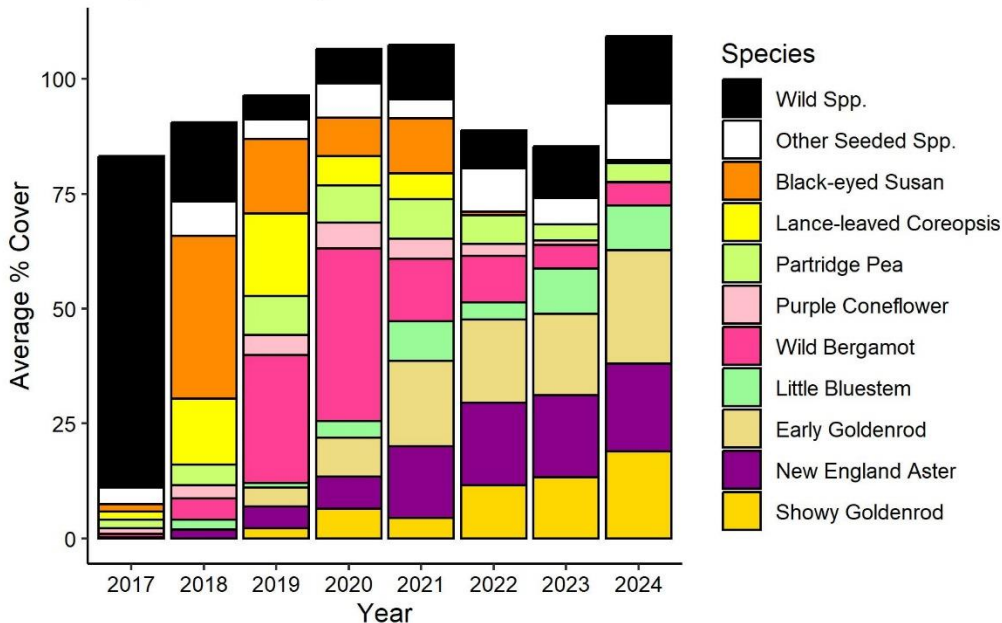
Grass-rich Seed Mix B:

Common Name	Scientific Name	% of Seeds	Comment (2024)
Autumn Bentgrass ¹	<i>Agrostis perennans</i>	15.0%	disappeared?
Big Bluestem ¹	<i>Andropogon gerardii</i>	6.4%	common
Blackeyed Susan ¹	<i>Rudbeckia hirta</i>	6.3%	initially very abundant, now basically gone
Canada Wildrye ¹	<i>Elymus canadensis</i>	10.7%	initially common, now declined
Indiangrass ¹	<i>Sorghastrum nutans</i>	6.7%	initially common, now declined
Lance Leaved Coreopsis ¹	<i>Coreopsis lanceolata</i>	3.2%	initially common, now almost gone
Little Bluestem ¹	<i>Schizachyrium scoparium</i>	16.0%	disappeared?
Partridge Pea ¹	<i>Chamaecrista fasciculata</i>	1.1%	disappeared?
Purple Coneflower ¹	<i>Echinacea purpurea</i>	5.3%	uncommon
Purple Lovegrass ²	<i>Eragrostis spectabilis</i>	1.3%	never germinated?
Purple Prairie Clover ¹	<i>Dalea purpurea</i>	2.1%	disappeared?
Purpletop ¹	<i>Tridens flavus</i>	16.4%	rare
Slender Lespedeza ¹	<i>Lespedeza virginiana</i>	1.1%	very rare
Switchgrass ¹	<i>Panicum virgatum</i>	8.5%	has become dominant
Seed Sources: 1) Ernst Seeds; 2) Prairie Moon;			

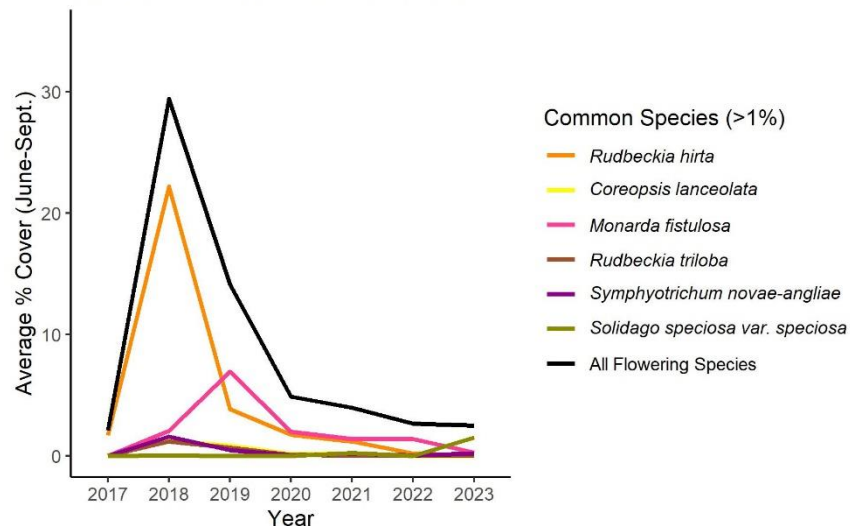
Changes in Plant Composition and Flower Abundance in Seeded Wildflower Meadows at the Hudson Valley Farm Hub Over Time

(Questions? Claudia@hawthornevalleyfarm.org; full report 2023 <https://www.hvfarmscape.org/agroecology>)

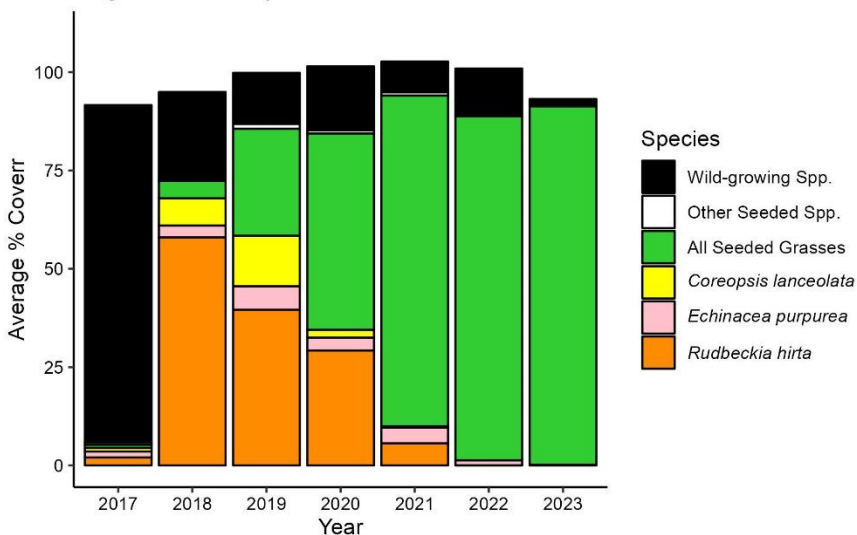
Vegetation Composition in Wildflower-Rich Plots



Floral Area in Wildflower-rich Plots



Vegetation Composition in Grass-Rich Plots



Labor for Establishment and Maintenance of Native Meadows (not including Control Plots)

