



## Virginia strawberry

### *Fragaria virginiana* Duchesne

#### Alternate Common Names

wild strawberry, common strawberry

#### Scientific Synonyms

*Fragaria australis*, *Fragaria canadensis*, *Fragaria grayana*,  
*Fragaria terrae-novae*

#### Functional Group

forbs (wildflowers)

#### Family

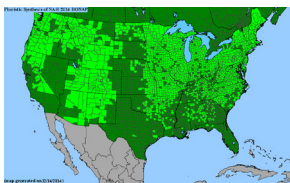
rose family (Rosaceae)

#### Description

- » **Life cycle/growth form:** perennial, spreading by runners to form extensive clones.
- » **Height:** 4-8 in
- » **Leaves and stem:** leaves basal, palmately compound; oval shaped leaflets (3) are up to 2.5 in long and 1.5 in wide with coarsely toothed margins and often finely haired, especially on the undersides; stems are sprawling stolons, often reddish in color, that root at the tips where new plants can emerge.
- » **Flower:** regular, five-petaled, 1/2 in diameter, petals white, stamens and pistils in center of flower yellow, 4-6 flowers in a loose cluster that is usually shorter than the leaves.
- » **Fruit/seed head:** 1/2 in globular to ovoid “berry” with numerous achenes (“seeds”) in pits on the berry’s surface, bright red at maturity.
- » **Pollination:** Insects such as bees, flies, and butterflies.



#### Habitat and Range



Dry to moist soil; partial to full sun; prairies, meadows, woodland openings and edges, roadsides, along railroads, savannas, limestone glades; Wetland Indicator Status is Facultative Upland (FACU) for the Midwest.

#### Conservation Status

Global- G5, secure; Louisiana- S1, critically imperiled; Nevada- S2, imperiled; Illinois- S2/S3, imperiled to vulnerable (NatureServe)

#### General Comments

Virginia strawberry can be found in the “understory” layer of most remnant prairies in Iowa. These small plants pack a large ecological punch. They flower early in the season, providing nectar and pollen resources for many species of small bees, flies, and skipper butterflies. Various herbivorous insects and mammals feed on the leaves, and the fruits are eaten by birds, mammals, and even reptiles (turtles), which disperse the seeds. When wild strawberries were abundant across the Iowa landscape prior to agricultural conversion, the fruits were an important early summer food for both Native people and Euro-American settlers. Virginia strawberry is one of the species that produced the cultivated strawberry through hybridization. Propagation and processing of this species is not difficult compared to other prairie forbs, and the most significant barrier to seed availability is probably the cost of labor required to pick the berries several times during the 2-3 week fruiting season.

#### Establishment for Seed Production (Appendix A)

##### Direct seeding:

We do not have experience with direct seeding this species for seed production.

##### Greenhouse:

- » **Seed pre-treatment:** 8 weeks cold/moist stratification
- » **Sowing:** Sow seed in greenhouse 8-10 weeks before average frost free date; spread stratified seed on germination flats and lightly cover (1/8 in or less) with germination mix; move seedlings to plugs when they have a pair of well-developed true leaves.
- » **Transplanting:** When plugs are well rooted and danger of frost is past, harden off seedlings and transplant into weed-free beds prepared with biodegradable paper mulch weighted with clean straw. Mulch must be biodegradable so that the new plantlets that form at the ends of stolons can grow roots into the soil.

#### Stand Management

- » **Weeds:** Biodegradable mulch in the first growing season suppresses most weeds; mowing at the highest setting of a typical riding mower after the fruiting season keeps weeds from becoming overly competitive in the second year.
- » **Pests:** Mammalian herbivores may browse foliage, and birds and small mammals consume fruits.
- » **Diseases:** None noted, though diseases that affect commercially grown strawberries such as botrytis molds may become a problem.
- » **Plot renewal:** Commercially grown strawberries are known to produce more fruit at the edges of plots. Since wild strawberries are closely related to the cultivated varieties, they may behave similarly, and techniques of cultivation, fertilization, and irrigation that are used by commercial strawberry farms may be beneficial. We will update this information as we gain more experience.

## Seed Production (Appendix B)

- » **First harvest:** Plants flower and set fruit in the second year after planting
- » **Yield:** 17-18 lbs of seed per acre (extrapolated from first year's production of one production plot); it takes roughly 30 pounds of berries to obtain a pound of seed.
- » **Stand life:** Probably long-lived, but production may decline as plots grow densely in subsequent years; plants at the edges of clones may set more fruit than those within dense patches; techniques used for "renewing" cultivated strawberry production such as rototilling narrow strips through beds may be helpful.
- » **Flowering date:** May in northern Iowa
- » **Seed maturity/Harvest date:** late May to mid June in northern Iowa
- » **Seed retention:** There is a risk of seed loss from animals consuming the fruit or from fungal diseases; during the fruiting season (2-3 weeks), berries must be picked every 2-3 days.
- » **Harvest date range at TPC (2024-2024):** May 26 to June 13 (first harvest, 2024)
- » **Recommended harvest method:** Hand pick every other day. The labor required to harvest the small berries is significant: it took over 40 person-hours to gather ripe berries from an 840 sq ft plot every few days over a 19 day period, yielding 11.52 lbs of fruit and 5.47 oz of clean seed.

## Seed Cleaning Process (Appendix C)

Place 2 parts water to 1 part fruit in a blender and process for 30 seconds. (Blender blades do not need to be altered or wrapped.) Pour the resulting mash into a 5 gallon bucket and add additional water. Stir, then allow the filled seed to settle out. Pour off the floating material, being careful to save the heavy seed at the bottom (J. Carstens, USDA-NCRPIS, personal communication, January 10, 2022). Spread the seed onto muslin cloth and place in front of a fan to dry. Airstreaming will remove remaining debris.

## Seed Characteristics (Appendix D)



- » **Seeds per ounce:** 83,000 (Prairie Moon)
- » **1000 seed weight:** 0.46g (Seed Information Database)
- » **Description:** "Seed" is a reddish-brown achene, 1.2-1.8 mm in diameter, roughly egg-shaped.
- » **Seed storage:** cool/dry (33-50° F,

30-50% RH)

- » **Typical seed test:**

PLS: 83.35%

Purity: 99.81%

Germination: 21%

Dormant: 61%

TZ: 85%

(averages obtained from 1 test of a purchased seed lot, and 1 test of seed produced at TPC)

## Released Germplasm

- » **Source Identified material:** Natural Selections/Iowa Ecotype Zone NI

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Species Updated: 2/4/2025

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