



Wisconsin Fast Plants™

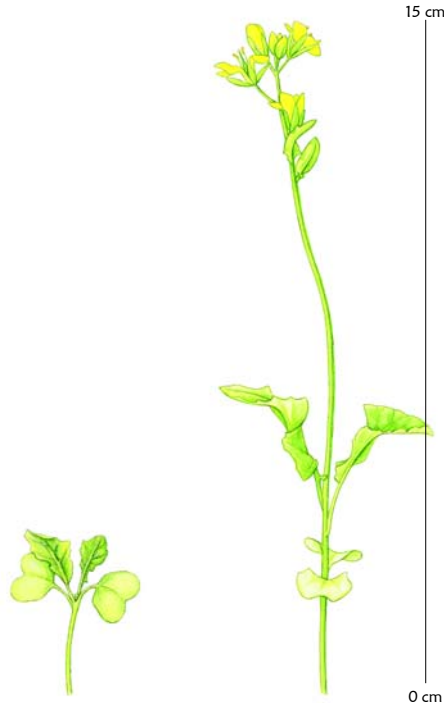
Seed Stock Profile

Non-Purple Stem, Yellow-Green Leaf

Two single, recessive traits:
anl/anl and *ygr/ygr*

This stock has two recessive mutant traits: non-purple stem and yellow-green leaf. The plants do not express any purple pigment (anthocyanin), and the plants appear a clear, yellow-green color. By comparison, Standard Wisconsin Fast Plants™ are a deeper, more intense green, with purple undertones on the hypocotyls, stems, leaf tips, and hydathodes.

Both phenotypes are conditioned by a single, recessive gene (*anl* and *ygr*). In the homozygous, recessive condition (*anl/anl, ygr/ygr*), the plants appear to be a clear, yellow-green color.



7 day old plant
Non-Purple,
Yellow-Green
(*anl/anl, ygr/ygr*)

15 day old plant
Non-Purple,
Yellow-Green
(*anl/anl, ygr/ygr*)

Length of life cycle: 35-45 days
Days to flowering: 15
Average plant height at day 15: 15 cm

Growing Tips

- 24-hour fluorescent light, water, and fertilizer is essential for Wisconsin Fast Plants™. Refer to *Growing Instructions* for more details.
- Prior experience growing Standard Wisconsin Fast Plants™ is useful for comparison with Non-Purple Stem, Yellow-Green Leaf plants.

Plant Color and Seed Production

Objective: To explore the effect of yellow-green leaf color on seed production in Wisconsin Fast Plants™

Time Required: 40-45 days (Most days require little or no activity.)

Extra Seed Needed: Seeds of Standard Wisconsin Fast Plants™

Procedure:

1. Predict if the yellow-green leaf color has an effect on seed production.
2. Think about what you are going to measure.
Ideas: number of seeds per plant, size of seeds, color of seeds, germination rates of seeds.
2. Plant several seeds of Wisconsin Fast Plants™ (both Non-Purple Stem, Yellow-Green Leaf and Standard) following the *Growing Instructions*. Tend the plants throughout their life cycle. Pollinate on days 15-17, then terminate any unpollinated buds that appear after day 17.
3. When the plants are brown and crispy, harvest the seeds (days 35-45).
4. Observe the seeds, and record the appropriate measurements.
5. How did the seeds produced by Non-Purple Stem, Yellow-Green plants compare to Standard plants? Describe your observations.



Written by Wisconsin Fast Plants Program 2001. Layout by Sarah Lauffer. Color art by Allison Schroeer. Line art by Amy Kelley.

CAROLINA®

Wisconsin Fast Plants™ Seed Stocks Available:
Standard • Purple Stem, Hairy • Non-Purple Stem, Hairless
Non-purple Stem, Yellow-Green Leaf • Yellow-Green Leaf • Petite
Rosette-Dwarf • Tall Plant • Variegated • F₁ and F₂ Genetic Stocks

To order Wisconsin Fast Plants™ materials and seeds:
Carolina Biological Supply Company, 2700 York Road, Burlington, NC 27215 1-800-334-5551
Ordering info: www.carolina.com/fastplants Activity ideas: www.fastplants.org