The F₁ (hybrid) generation is produced by crossing two parent stocks, each of which is homozygous for its recessive, namesake trait. The Non-Purple Stem parent genotype is anl/anl, YGR/YGR. The Yellow-Green Leaf parent genotype is ANL/ANL, ygr/ygr.

Crossing the two parents yields hybrid offspring that are heterozygous for both traits (anl/ANL, YGR/ygr). They are not phenotypically similar to either parent, displaying purple stems and green leaves. This illustrates the principle of dominance.

The F₂ generation is produced by intermating the F₁ population and harvesting the seeds. The plants in this generation segregate in a 9:3:3:1 ratio of phenotypes. (See back page for details.) This illustrates two Mendelian principles: the Law of Segregation and the Law of Independent Assortment.

Anthocyanin is a purple pigment that may be visible on hypocotyls, stems, leaf tips, and hydathodes. In the homozygous, recessive condition (anl/anl), plants do not produce anthocyanin, and they appear bright green.

In the homozygous, recessive condition for yellow-green leaf color (ygr/ygr), the cotyledons, leaves, stems, and developing seed pods are a pale, yellow-green color.

**Growing Tips**

- 24-hour fluorescent light, water, and fertilizer are 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.
- Purple color is best observed on the hypocotyls (stems) when the plants are 4-7 days old. The purple color will intensify with increased light or decreased nutrients. Petri-plate germination yields a deeper purple color than pot-grown plants, but is not recommended for observing the yellow-green trait.

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**Wisconsin Fast Plants™ Seed Stock Profile**

**F₁ and F₂ Generations of Non-Purple Stem, Yellow-Green Leaf**

<table>
<thead>
<tr>
<th>15-day-old plant</th>
<th>7-day-old plants</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="15-day-old plant" /></td>
<td><img src="image2" alt="7-day-old plants" /></td>
</tr>
</tbody>
</table>

Single, recessive traits: anl/anl and ygr/ygr

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**Length of life cycle:** 35-45 days

**Days to flowering:** 15

**Average plant height at day 15:** 15 cm
**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