New Crop Report: *Digitalis lantana* ‘Robert Frost’

Laci High
HORT 5051
Taxonomy

- *Digitalis lantana*
  Vermont selection 07D–01
- Grecian foxglove (*D. lanata*)
- Genus name derived from Latin root “digitus” because flowers resemble fingers
- Plantaginaceae (Scrophulariaceae)
Geographic Distribution

- Native to Balkan peninsula countries (Greece and Romania)
- Naturalized in U.S., British Isles, and central Europe
- In U.S., thrives in all regions except FL and Gulf Coast
- Native climate characterized by hot, dry summers and cool, rainy winters
- Some species have tendency to become invasive
Native Habitat

- Woodland species
  - Rich, acidic soil
  - Plentiful moisture
  - Tolerant of shade
- Members of genus often establish themselves along roadsides and other disturbed areas

www.plantstogrow.com
Taxonomic Description

- Herbaceous biennial or perennial
- First year’s growth produces basal rosette of leaves
- In second year, a solitary stem is formed with flowers in one-sided racemes
- Leaves: Oblong-lanceolate to lanceolate
- Stem: Reddish-purple, glabrous or subglabrous
- Flower: Corolla white or yellowish-white with brown to violet veins
- Season of Bloom: Late spring

(Tutin et al., 1972)
Medicinal Uses

- Major source of the cardiac stimulants (digoxin and digitoxin)
- *D. lanata* chiefly grown for its medicinal value (high glycoside content)
- However, leaves, flowers and seeds are poisonous if ingested
Cultivars on the Market

- *D. lantana* ssp. *leucophaeae*
- *D. lanata* ‘Krajovy’
- *D. lanata* ‘Café Crème’
- *D. lanata* ‘Oxford’
- *D. purpurea* ‘Foxy’
- *D. purpurea* F1 hybrid ‘Dalmatian’ series

*D. lanata* ‘Café Crème’

*D. purpurea* ‘Dalmatian Purple’
Propagation Methods

- Historically seed propagated (80–85% germ)
- Fruit is a dry capsule
- No obligate cold treatment
- 5–10 days to germinate (70–72F)
- GA and KNO₃ did not enhance germination
Tissue Culture Techniques

- Medicinal value of *D. lanata* has led to advancements in tissue culture
- Efficiently develop inbred lines
- Leaf tissue has best callus formation
  (Bosila, et al., 2003)

http://www.equitech.biz/
Product Specifications

- **Flower power**
  - Re-flowering ability or longer blooming season
  - Unique color scheme

- **Convenience**
  - Low nutrient requirements
  - Tolerant of sun and shade

- **“Annualizing” of perennials**
  - ‘Dalmatian’ series flowers in less than five months

- **Use in containers**
  - Colorful vertical element
Market Niche

- Ability to bloom during peak spring sales
- Sell ‘Robert Frost’ story
- Promote qualities such as deer resistant and dwarf selection
- Compete with other “annualized” perennials (Rudbeckia, Lupinus, Delphinium, other Digitalis)

www.clausetezier.com/tezier_flower/images

http://www.scnla.com/Rudbeckia_TigerEyeGold
Anticipated Cultural Requirements

- USDA Winter Hardiness: Zone 4–8
- Heat/Drought Tolerance: AHS Zones 12–1
- Photoperiodic Response: Facultative long day plant (FLDP)
- Partial shade to full sun (cooler climates)
- Nutrition: moderate to high nitrogen levels
- Soil: rich, well-drained and acidic
- PGRs: A–Rest (25 ppm), B–Nine (2500 ppm), or Sumagic (5 ppm)
- Fungicides/Insecticides: Marathon 60W recommended as preventative drench against aphids
- Small seeds so pelleting recommended

(Pilon, 2004)
Sow seeds in 288-cell or larger
  ◦ Sow to transplant: 7–9 weeks (72-cell plug flat)
Transplant to flower: 8–9 weeks
  ◦ ‘Dalmatian’ series
Rapid, uniform flowering results from 10 weeks cold treatment followed by long days (*D. purpurea*)
Height control: withhold water and nutrients and proper spacing
Target sales date: Mother’s Day (mid-May)
Initial Crop Limitations/ Needs Assessment

- Time from seed to flower
  - ‘Dalmatian’ series blooms in five months
  - Still long duration by ‘annual’ standards
- Flower power
- Continued selection using traditional breeding methods
Literature Cited

- Bochard, P. Inquiry from Companion Plants. 4 March 2009.


