Tidal Wave Red Velour F1 Petunia

Master Gardener Project
Curtis Massie

Objective: Grow Petunia from seed to maturity at the Urban Garden Center, Pearl City.
• What is Red Wave Petunia?

• What happened in the Greenhouse?

• What were autopsy results?

• What went wrong?

• What is the recommended way to grow red wave petunia from seed?

• What did the Red Petunia Evaluation Sheet look like?

• What were some lessons learned?
What is Tidal Wave Red Velour F1 Petunia?

- Genus/Species: Petunia/x hybrida
- 2015 All America Selections (ASS) Flower Award Winner
- Breeder: PanAmerican Seed
- Characteristics
  - strong and vigorous grower
  - new blooms continuously pop up and replace old blooms
  - cold, heat, rain tolerant
  - needs either slow release or weekly fertilizer
What happened in the greenhouse?

• Same soil used for all plants.
• Paper trays with 10 cups each.
• Two seeds per cup.
• Automatic overhead watering system.
• 100% germination rate.
• 100% dead prior to transplant.
• **Autopsy.** My autopsy showed a root split into four two-inch long strands, while the stem and leaves were less than an eighth of an inch. I expected a root ball about the same size as the plant. Instead, the plant placed nearly all its energy into growing roots instead of leaves.
Mars One

- One week after sowing seed
  - simulated moon soil
  - simulated mars soil
  - compost rich soil

- “On Mars (and moon as well) nitrate, though present, is rather scarce in the soil.”

Experiment conducted at Wageningen UR
What went wrong?

- The Petunia’s visible growth slowed either due to a shortage of nitrogen in the soil (references 1&2), or a low ratio of nitrogen to carbon in the soil (reference 3). The Petunia’s response was to allocate a greater portion of its biomass to the root system (reference 4 and autopsy photo). The lack of visible growth caused me to leave them in the greenhouse until they died.


- Reference 2. Citrus for Hawaii’s Yards Gardens, June 2008 by Cooperative Extension Service of University of Hawaii at Manoa. I learned that in Hawaii it can be assumed that soil nitrogen is limited, and adding it will have a favorable impact on growth and yield. Also, I learned that fertilizers are generally a better (more rapid) source than compost or manure.


- Reference 4. How Do Plants Respond To Nutrient Shortage by Biomass Allocation, December 2006 by Hermans, Hammond, White, and Verbruggen. I learned when minerals are scarce, plants allocate a greater proportion of their biomass to the root system.
What is the recommended way to grow red wave petunia from seed?

• From the website www.waverave.com
  • “Fertilize with a liquid feed weekly.”
  • “Do not allow tray to completely dry out.”
  • “Place the tray in a warm and bright location.”
  • “Here’ a quick tip: covering the tray with clear plastic may help to maintain temperature and increase humidity.”

• Watched a video of transplanting petunias. The petunia was easily pulled out with roots intact, and a finger was used to push the petunia into the new soil. The soil that was used successfully was very loose and airy, like peat moss.
• What did the Red Petunia Evaluation Sheet look like?
• What did I learn?

• Petunia seedlings need special care
  • fertilize their water once or twice a week (with fertilizer that includes nitrogen)
  • Use loose and airy soil, like peat moss
  • Check daily to make sure the soil never dries out
  • Use artificial light to ensure bright light every day
  • Cover with clear plastic to ensure warm even temperature and high humidity