

What is the best variety of Sweet Pea to grow in southern Ontario?



MULTI-FARM



SEED PRODUCTION
& BREEDING



Farmer-Researchers

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Sweet Gale Gardens - West

With: Jen Feddema, Joanne Feddes, Janis Harris, and Sas Long

Project Timeline:

May 2018 - August 2018

In A Nutshell

Much of the flower seed being produced and used by cut flower growers across Canada is grown internationally in the Netherlands, Israel, and various South American and African countries. This means that varieties are not adapted to the Canadian climate and flower growers can't support local seed houses.

Jessica wanted to assess different varieties from local seed houses to find the best one for her farm, and she enlisted the help of other flower growers.

Key Findings

- There was not a detectable difference in plant quality among blush or white varieties.
- While there was not enough data to analyze statistically, Jessica recorded differences in bloom period and vase life. In doing so, she gained insight into the importance of these factors - especially in hot southern Ontario - for future variety trials of Sweet Peas.

METHODS

Design

Jessica selected 5 varieties each of white and blush sweet peas (*Lathyrus odoratus*). For each colour, she chose two varieties each from two Ontario seed houses, **Unicorn Blooms** and **Stems**, and a check variety from a large seed house in New York (**Table 1**).

As the Mother Site, Jessica grew each variety in triplicate (n=3) and randomly assigned the replicates in one bed per colour.

As Satellite Sites, Jessica randomly assigned Jen, Joanne, Janis and Sas each to two varieties of one colour, one variety per seed house, and the check for that colour. Satellite sites grew three replicates of the test varieties and one replicate of the check. (See Protocol for more details.)

Table 1		
Varieties included in the trial.		
Variety	Type	Source
Piggy Sue	Blush	Unicorn Blooms
High Society	Blush	Unicorn Blooms
Molly Rillstone	Blush	Stems
Yvette Ann	Blush	Stems
Spring Sunshine	Blush	Gloeckner
Wild Swan	White/cream	Unicorn Blooms
Lunar Sea	White/cream	Unicorn Blooms
Jilly	White/cream	Stems
White Supreme	White/cream	Stems
Spring Sunshine	White/cream	Gloeckner

Multi-Farm Trial

It was a late year to get flowers in the ground. Because of this, only Jessica, Janis and Jen were able to plant all of the varieties and replicates.



Sweet pea varieties growing at Janis' farm, Harris Family Flowers.

RESULTS

Stem length and Size of clusters

- From Jessica's three replicates, there was no detectable difference in **stem length** or **size of individual clusters** among any of the blush or white varieties ($P>0.1$ for all).
- In the second week of bloom, High Society had larger **flower clusters** than Yvette Anne (blush varieties), with no other differences among varieties detected.

Table 2				
Average germination, bloom period, vase life and colour. Bold denotes best highest measurements.				
Variety	Germ. rate (%)	Bloom period (days)	Vase life* (days)	Colour
Piggy Sue	94	14	3.5,4,5	lovely, strong scent
High Society	100	14	4,4,5	cooler tone
Molly Rillstone	72	7	4,3,5	nice blush, slight peach
Yvette Ann	66	7	NA,5,5	good colour, more salmon
Spring Sunshine	82	14	4,4,5	solid pale pink
Wild Swan	100	7	6	
Lunar Sea	75	14	6	nice cool cream, touch of green
Jilly	82	7	6 - best	
White Supreme	88	7	6	
Spring Sunshine	92	14	6	pure white

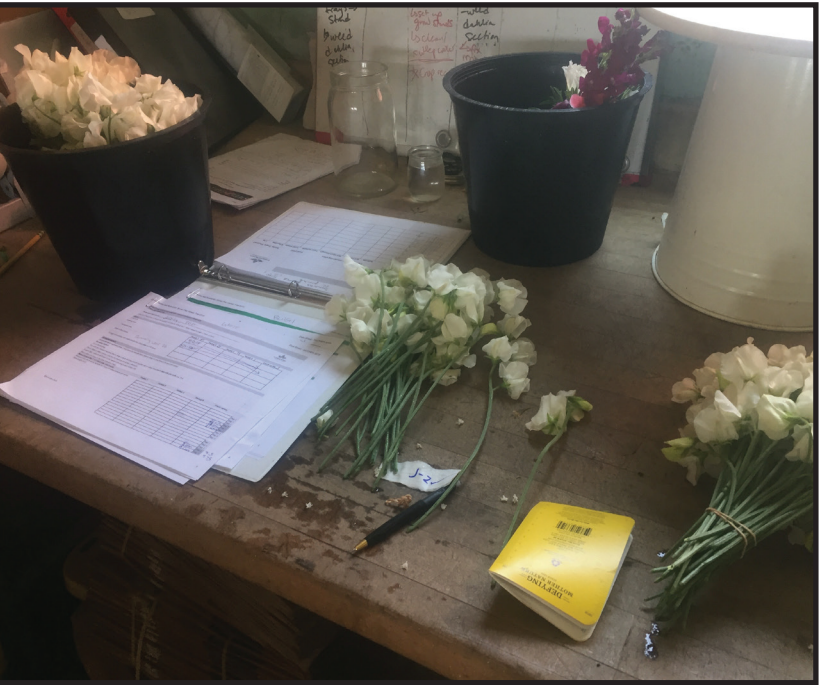
*Vase length for Blush varieties was measured twice. Numbers represent length of first test out of cooler; length of second test out of cooler; and length of second test in the cooler.

Bloom period and Vase life

- Bloom period and vase life varied for white and blush varieties. There isn't enough data to run statistics so we don't know how repeatable these results are.
- Piggy Sue, High Society and Spring Sunshine bloomed twice as long as the other two blush varieties.
- Lunar Sea and Spring Sunshine bloomed twice as long as the other three white varieties.



Variation in blush colour of sweet pea varieties at Janis' farm.



Jessica's set-up for collecting stem length measurements.



Vase life measurements at Jessica's farm.

TAKE HOME MESSAGE

Although there isn't a complete dataset, what emerged for the growers was the importance of growing regionally adapted sweet peas that have a longer bloom period, or resistance to heat waves.

Heat resistance is particularly important when you consider that most of the seed is developed in the UK and New Zealand, which have long, cool springs.

For Jessica specifically, the process of data collection on bloom period made her re-evaluate the amount of sweet peas she should grow in future years, given its short life.

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