

Texas Hill Country Gillespie County Lavender Trial

Elizabeth McMahon, Gillespie County CEA-Horticulture

Summary

Thirteen lavender varieties were planted at the Gillespie County Extension Office on May 10th, 2022. As of November 2022, 95% of all plants have survived. Plants began blooming as early as June 2022, though flower quality was low. Flower quality was highest in November. This trial will continue into 2023 to monitor their survival and performance.

Objective

For a commercial grower, lavender plantings are an opportunity for agritourism and essential oil production. For a homeowner or landscaper, lavender is a drought tolerant choice that is an excellent pollinator attractor. Commercial lavender plantings in the Texas Hill Country have problems with crown and root rots. This is one possible reason why lavender is not commonly used in landscape plantings. Local lavender producers have created variety lists, but these are outdated and have not been scientifically tested. These lists also lack the more ornamental and possibly hardier species of lavender. These lists are not easily available either. A tested and widely available lavender variety list would be helpful for producers, landscapers, nurserymen and homeowners. The objective of this lavender trial was to test thirteen varieties for survival, health, and flower production in the Texas Hill Country. This trial is part of a statewide lavender trial.

Materials and Methods

Lavender has many different types, and of these, different uses. Though all the lavender species used in this experiment can be used for essential oil production, English lavender (*Lavandula angustifolia*) and Lavandin hybrids (*Lavandula x intermedia*) are most commonly used for essential oil. Because of concerns for heat/humidity tolerance, no English lavender varieties were used in this trial. Four lavandin types were used in this trial.

Spanish lavender (*Lavandula stoechas*), also known as butterfly lavender and French lavender (*Lavandula dentata*), also known as fringed lavender, have become more developed with new plant varieties every year. These two types are not as cold hardy as the English or Lavandin types and have not been known to have been planted widely in this area. Seven varieties of Spanish lavender and two varieties of French lavender were included in this trial. Please see appendix 1 for a complete listing of all varieties.

Plants were transplanted as plugs into four-inch pots filled with “Miracle Grow” potting mix on March 29th, 2022. They were grown at the Texas AgriLife Extension Viticulture and Fruit Lab greenhouse until they were moved out into the shadehouse approximately two weeks before

planting. Plants were not fertilized while growing in the four-inch pots and many showed nutrient deficiencies on the planting date.

The trial site is located at the Gillespie County Extension Office. The planting location was a raised berm comprised of a mix of fill dirt and topsoil. Soil was very hard to dig in when plants were planted. Two reps per variety of three plants each were planted, and were randomly dispersed throughout the plot line. Spacing was approximately two feet apart. Irrigation was provided by one drip tape line with emitters spaced one foot apart. Each plant had an emitter nearby. They were watered weekly until establishment, except if there was a rain. After establishment plants were watered if wilt was observed. Plants were lightly mulched with organic wood chips.



Figure 1. Lavender plants in shadehouse.

Generic glyphosate herbicide was sprayed to control weeds around the plants on June 3rd, 2022 and August 2022. Applications of “Amdro Fireant Bait” were applied on July 27th, 2022 and August 12th, 2022 to control fire ants. Data was taken monthly on foliage, vigor, flowering, and overall quality.



Results and Discussion

All plants survived being transplanted into the field. Survival of the plants was unusually high, considering the hot and dry weather that was present so early after planting. Overall survival of the planting was 95%. Of these, overall survival of Lavandin types was 87.5 %, French Dentata types was 100% and Spanish lavender types was 95%. Lavandin

types have been commonly planted in the Texas Hill Country, but the French Dentata and Spanish lavender varieties have not (personal observations). If these plants show increased hardiness over the Lavandin types, this may encourage more landscapers to use these plants for commercial plantings.

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All varieties have increased their foliage rating since planting. The Spanish varieties appear to have the greatest increase. Fertilizer was not added, and this may indicate it is not needed.

Flowers appeared on lavender varieties “New Madrid Purple”, “Anouk Supreme”, “Primavera” and “Papillion rose” as early as June 2022. However these flowers were initially of poor quality. Flowering quality has been highest in November, but is held back by not all plants of a variety flowering consistently. For example, “Provence”, the only lavandin variety with blooms, only has two out of the five living plants blooming. “Primavera”, a Spanish type, has four out of six blooming in November. It is unknown why not all plants of a variety are blooming at the same time. Consistent blooming is needed for commercial lavender producers. Hopefully this is only due to the plants being young, and plants will become more consistent as they get older. Varieties “Dilly Dilly”, “Sensational”, “Anouk Deep Rose”, “Phenomenal”, and “Anouk” have not bloomed as of November 2022.



Figure 2. Left picture, normal Spanish lavender flower. Right picture, balled flower from Spanish lavender.

Bloom quality only measures the percent of the plant flowering, so it doesn’t measure how pretty the flower is. The French varieties have the largest, fattest blooms. Blooms of “New Madrid Purple”, “Anouk Supreme”, and “Papillion Rose” do not match their pictures, and appear to be balled up on themselves, creating an very unattractive small flower. “Primavera”, a Spanish type, has flowers that are as described in the literature. Hopefully the other varieties will match their intended bloom shape as they age.

Deer numbers are high in the Texas Hill Country, and any new plant that can resist them would be of strong interest to local homeowners. All four lavandin varieties “Dilly Dilly”, “Sensational”, “Provence” and “Phenomenal” as were the French dentata varieties were browsed lightly the first month of the experiment. These are the varieties with the largest leaves. Though there was some insect damage later, no deer damage was detected after June. Deer droppings have been consistently found around the trial, indicating the lavenders are not of interest and possibly resistant.

Conclusions

Considering the age of the plants and the lack of inputs, the plants can be considered to be performing admirably. Winter conditions are expected to decrease survival of some of the varieties. This trial will be repeated next year.

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Plant Variety List

Variety	Latin Name	Plant Zone	Average Survival	First Flowering Date
Provence	<i>Lavandula X intermedia</i>	5-9	83.33	October 2022
Dilly Dilly	<i>Lavandula X intermedia</i>	5-9	83.33	Not yet
Sensational	<i>Lavandula X intermedia</i>	5-9	83.33	Not yet
New Madrid Purple	<i>Lavandula stoechas (pedunculata)</i> ✓	7	100.00	June 2022
Anouk Deep Rose	<i>Lavandulda stoechas</i>	6a-9b	100.00	Not Yet
Phenomenal	<i>Lavandula X intermedia</i>	5-9	100.00	Not yet
Dentata French	<i>Lavandula dentata</i>	8-11	100.00	October 2022
Anouk Supreme	<i>Lavandulda stoechas</i>	6a-9b	100.00	June 2022
Primavera (Anouck Deluxe 1225)	<i>Lavandulda stoechas</i>	7-9	100.00	June 2022
Imperial	<i>Lavandula dentata</i>	7	100.00	November 2022
Anouk	<i>Lavandulda stoechas</i>	7-10	100.00	Not yet
Papillion Rose	<i>Lavandula stoechas</i>	7-9	100.00	June 2022
New Madrid Rose	<i>Lavandula stoechas (pedunculata)</i> ✓	7	83.33	August 2022

Flowering Quality

	June	July	August	September	October	November
Provence	0.00	0.00	0.00	0.00	0.80	1.60
Dilly Dilly	0.00	0.00	0.00	0.00	0.00	0.00
Sensational	0.00	0.00	0.00	0.00	0.00	0.00
New Madrid Purple	0.33	0.00	0.00	0.00	1.00	1.67
Anouk Deep Rose	0.00	0.00	0.00	0.00	0.00	0.00
Phenomenal	0.00	0.00	0.00	0.00	0.00	0.00
Dentata French	0.00	0.00	0.00	0.00	2.67	4.17
Anouk Supreme	0.33	0.00	0.00	0.00	0.00	0.00
Primavera (Anouck Deluxe 1225)	1.00	0.00	0.00	0.00	1.17	3.83
Imperial	0.00	0.00	0.00	0.00	0.00	0.17
Anouk	0.00	0.00	0.00	0.00	0.00	0.00
Papillion Rose	0.33	0.00	1.00	0.33	4.00	1.67
New Madrid Rose	0.00	0.00	0.33	0.17	0.20	0.00

Foliage Quality

	June	July	August	September	October	November
Provence	6.67	8.17	6.17	8.00	7.60	8.40
Dilly Dilly	7.50	8.50	8.17	6.60	8.00	8.00
Sensational	7.00	8.83	7.83	6.67	7.50	7.20
New Madrid Purple	4.00	6.33	6.67	5.83	7.50	6.67
Anouk Deep Rose	5.00	4.67	6.33	5.50	6.33	6.83
Phenomenal	8.00	8.83	8.17	6.17	8.00	8.00
Dentata French	4.50	6.17	6.50	8.50	7.33	7.33
Anouk Supreme	6.00	7.17	6.67	6.00	7.17	7.83
Primavera (Anouck Deluxe 1225)	3.33	5.50	5.50	6.33	7.33	7.50
Imperial	4.50	7.67	7.00	7.50	8.00	8.33
Anouk	4.67	6.00	5.67	6.00	7.33	8.17
Papillion Rose	4.00	5.67	6.00	6.83	7.83	7.00
New Madrid Rose	3.67	5.33	5.17	5.17	5.80	6.80

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