

Growing lablab (avarakkai) beans in southern Ontario

IN A NUTSHELL

Aarathi wanted to see whether a bush or vining variety of lablab bean was more productive in southwestern Ontario. After germination challenges, the bush variety showed good potential with harvestable beans while the vining did not produce harvestable beans before frost. Aarathi was able to collect data on the bush variety as a first step towards determining its commercial viability

BACKGROUND AND MOTIVATION

Aarathi found it difficult to find avarakkai, or lablab beans, a type of broad bean widely grown and eaten in India, in grocery stores in the Greater Toronto Area. Even the ethnic markets only sporadically stocked them, and their freshness was often questionable. Though native to Africa, lablab has been cultivated in India for thousands of years and has become an important part of Indian cuisine. In South India, avarakkai is often prepared in a stir-fry-like dish: the immature pods are sliced with the seeds inside and cooked with onion, garlic, and either pepper or chilli, sometimes finished with coconut.

With only the purple ornamental hyacinth bean available here, Aarathi contacted Agriculture and Agri-Food Canada (AAFC) who helped her legally import lablab seeds of green-podded edible varieties from south India. She was able to acquire two pounds of two varieties — one dwarf (bush) and one vining—both used in India for vegetable production.

OBJECTIVE

In the first year of this project, Aarathi's objective was to see which variety of lablab bean was more productive in the zone 6 conditions of southwestern Ontario.

METHODS

VARIETIES

Table 1. Trial varieties

VARIETY	PLANT HABIT	DTM (EATING STAGE)	SOURCE
Val Papdi Bean-Bharat	Bush	45-65	seedsofindia.com (New Jersey, USA)
unknown	Vining	45-65	Nagercoil, India

TRIAL SETUP

Aarathi seeded 5 feet per variety with 4 replicates totalling 40 bed feet. She applied rhizobium inoculant from Vesey's to the beans before planting. She seeded the first round indoors with the intention of transplanting, and direct seeded the second round outside in the bed.

MEASUREMENTS

Aarathi noted germination rates at 12 and 24 days. For mature plants, she measured the number of marketable and unmarketable pods and their weights. Aarathi also made additional observations like early



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Cooking lablab beans



Lablab beans being weighed

season vigour ratings, plant health and rated flavour and overall quality.

She did not collect data on the difference in labour between the two different varieties (one being a bush vs one being a pole with trellising needs), but noted overall variety performance and if she'd grow the variety again or not.

DATA ANALYSIS

Screening Trial: This trial became a small screening trial because there were not enough replicate plots of each variety. As such, we can't assign probability to any differences we see among varieties. Rather, Aarathi hopes to identify any large differences among varieties, to narrow down varieties for a potential replicated variety trial in the future.

FINDINGS

GERMINATION

The first seeding had very low germination and Aarathi chose to abandon it as a replicate. The second seeding performed better, and both varieties germinated. However, the vining variety did not mature enough bean pods by first frost for data collection.

PLANT HEALTH AND OBSERVATIONS

Aarathi observed seedlings grew vigorously and performed better with insect netting on the bush variety than in previous years. However, 2023 was a wet year and she experienced more disease pressure than previous growing years. Aarathi also noted that she might have a nutrient deficiency that affected the way the beans grew and their harvestability.

MARKETABILITY

Aarathi took data on plant marketability primarily on the bush variety, because the vining variety did not have mature enough pods for harvest by October 13. The bush variety was more abundant as time went on. The mean marketable pod count was 15 and the weight was 149.2 g per plant. The mean unmarketable pod count was 3 and the weight was 19.2 g per plant.

For the bush variety, she noted, a "small number of beans were edible whole (pod included) and were tasty. Most had to be shelled due to marks on the pods and used in curry (also tasty). There was curiosity about the variety and a few people actually bought it to try out." For Aarathi, this bush variety was worth growing again and trying to market to speciality grocery stores.

Aarathi noted the vining variety could be sensitive to weather fluctuations, according to university data from India.

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Table 2. Mean percent germination for indoor seeded lablab to transplant (first seeding) and direct seeded lablab (second seeding)

VARIETY	GERMINATION 12-DAYS	GERMINATION 24-DAYS
Bush (indoor)	28%	28%
Bush (direct)	12%	37%
Vining (indoor)	19%	19%
Vining (direct)	8%	33%

Table 3. Total number of plants, total pod count and weight for direct seeded plants of both varieties collected over the growing season

VARIETY	NUMBER OF PLANTS	TOTAL POD COUNT	TOTAL POD WEIGHT (G)
Bush (LLV1)	44	749	7034
Vining (LLV2)	NA	NA	NA

NA - not available

Table 4. Mean flavour rating and overall rating for both varieties

VARIETY	MARKETABILITY RATING	FLAVOUR RATING	OVERALL RATING
Bush (LLV1)	2	4	3
Vining (LLV2)	NA	NA	2

NA - not available



Immature lablab bean in the sun

TAKE HOME MESSAGE

There is more to learn about growing lablab beans in a southern Ontario context. However, Aarathi was able to determine that the bush type variety of lablab was the right bean to focus on improving germination rates and fine tuning and optimizing spacing and trellising.