

ADOPT

Agricultural Demonstration of Practices and Technologies

Final Report – November 13, 2012

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Demonstration of Faba Beans

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Objectives:

This project was initiated to demonstrate the regional production potential of this new crop, as well as to develop awareness about production of this crop.

Rationale:

Many producers in the local area are interested in new crops that could diversify their rotations to alleviate production problems and enhance or stabilize economic returns. Faba bean has considerable potential as a nitrogen fixing crop for production in areas where high moisture makes field pea production rather risky. A local processor is looking to access faba bean seed to develop new markets for this crop. Several producers have started to grow faba beans locally, but both new and potential growers would benefit from having better information about cultivar choices and agronomics for this new and unfamiliar crop.

Materials and Methods:

This demo consisted of comparing 4 varieties; SSNS-1, Snowbird, Florent and Taboar of faba bean. Snowbird is a white flower zero tannin type, while the other varieties have colored flowers and normal tannin levels which can affect their use in livestock feed.

The trial was located on a summerfallow field that was harrowed on May 17. Prior to seeding, 1 litre/acre of glyphosate was applied for weed control. Seeding was done with a 9350 John Deere hoe drill, with SSNS-1 and Snowbird seeded May 29, and Florent May 31. Taboar was not seeded until June 11th, because of rain delays. Fertilizer was applied based on soil tests indicating a requirement for 54lbs of P₂O₅/acre.

Emergence was extremely quick, resulting in early canopy development requiring no herbicides. On July 10th we applied 160ml/ac of Headline to control aschochyta disease.



One litre/acre of glyphosate was applied to the plots on Sept 16th as to halt development and hasten drying of the crop. The crop was harvested on Sept 26th using a small plot combine.

Results:

With late May seeding, soil conditions were quite warm promoting rapid germination. The crop emerged very well, with a very vigorous and competitive canopy developing early in the growing season. As a result no weed control treatment was needed. Despite abnormally high rainfall that caused damage to other crops in the area, the faba bean crop fared very well. Crop height approached 2 m. with all cultivars and seed set was exceptionally high. Headline provided very good control of foliar diseases.

The first killing frost occurred September 13, which is about a week later than normal. Snowbird did show more visible effects of frost damage than other cultivars, including late seeded Taboar.

Grain yield exceeded expectations with all cultivars producing in excess of 100 bu/ac (Table 1). Overall Snowbird was highest yielding while Florent was lowest. This contradicts the variety description that suggests Florent is one of the highest yielding cultivars. Because Taboar was seeded much later than other cultivars, comparisons are not completely valid, but even with late seeding this cultivar yielded very well.

Table 1. Yield of 4 Cultivars of Faba Bean at the Conservation Learning Centre, 2012.

Variety	SSNS-1	Snowbird	Florent	Taboar
Yield bu/ac	133.7	145.6	105.3	137.8

Conclusions:

Faba bean performed exceptionally well at this location in 2012. This should make the crop quite attractive to growers. Seeding late into warm soil allowed the crop to avoid damage from late frosts, to which the crops is susceptible. It also promoted crop vigor which improved competitiveness with weeds; an important consideration since few herbicides are licensed for use on this crop. With the warm wet season and later than normal fall frost in 2012, yield was exceptional. One caution that growers should be aware of is that the crop is later maturing (104 to 107 days vs 100 days for HRS wheat) than many others commonly grown in the area, and risk of damage from fall frost may be considerably higher than we experienced in 2012.

Supporting Information

Acknowledgements:



We would like to express our gratitude to the Ministry of Agriculture for the funding support and in-kind support with this project. To recognize the ADOPT program and the Ministry we had signage at the sites.

Field Days:

- Conservation Learning Centre – Annual Field Day – July 17th - 45 people
- Conservation Learning Centre – Combine Clinic – Aug 9th – 55 producers
- Report on the project to be posted on our website
www.conservationlearningcentre.com

Abstract

During 2012 at the Conservation Learning Centre, we demonstrated the productivity of four cultivars of faba bean. This was done by seeding them on fallow at the end of May (one variety Taboar sown later on June 11) and evaluating crop growth and ultimately yield. Weeds were controlled before seeding but in-crop control was not needed, in part because the crop was highly competitive. A fungicide treatment was required for ascochyta control. Yield of all cultivars exceeded 100 bu/ac, with the highest yielding cultivar Snowbird providing yield of 145 bu/ac. These exceptionally good yields reflected the ability of the crop to utilize the abundant moisture available to it, along with a warm and long growing season. While conditions are likely to be less favorable in future, our results do suggest that this crop has great potential as an alternate nitrogen fixing crop in rotations for the region. Future research activities should focus on identifying optimal seeding dates as well as weed and disease management strategies for this crop. In future trials some emphasis should be placed on describing the growth and development (growth staging) to better determine how well the crop fits under the typical range of growing season conditions experienced in the area,

