


Fababeans Factsheet

Growing Fababeans in Northern Ontario

Summary

AVERAGE YIELD 1.5 TON/ACRE
ESTIMATED PROFIT MARGIN: $276/ACRE
TEMISKAMING PRODUCTION ACRES: 537 (2015); ~3000 (2016)
FLORENT VARIETY PLANTED IN TEMISKAMING (2015)

Why grow? Very competitive in terms of profitability; great fit in local rotations; can access feed grade markets in areas with local dairy industry; thrives under cool growing conditions and access to moisture; very tolerant of spring frosts; superb nitrogen fixer.



110-120 days to maturity
Food grade (high in tannins) & feed grade (low in tannins)
Alternative for canola in rotation – rotation example: fababeans, wheat, cereal, soybeans
Fantastic nitrogen fixation – fixes more N than any other legume crop adapted to growing in Canada, releases 20-50 lbs/acre of residual N to cereal crops following fababeans in the rotation, precisely when needed to help meet protein premiums

Moisture & Temperature

Optimal temperature is 15 C to 20 C, especially during the reproductive phases of flower and pod development; flowers will abort if temperatures exceed 27 C
Frost hardy (survived June frost of -4 C)
Needs moisture for full yield potential – 200 to 250 mm suggested (spring soil moisture + rainfall or irrigation)

Fertility

High uptake of P & K
Very good scavenger of P so best to apply extra phosphorous to previous cereal crop – poor response to addition of P fertilizer during production year unless soil test levels are low
If low soil test, probably best to use a starter fertilizer with MAP + Suphate of Potash which will safely provide P, K & S

Weeds, Disease & Bugs

Lots of different options for weed control (Glyphosate, Edge, Poast Ultra, Assure II) – Infinity and Trophy suspected to carryover from previous crop
Lygus bug higher risk near canola & alfalfa, bigger concern for low tannin varieties than high tannin; Vetch aphids
Diseases include chocolate spot, Ascochyta, Alterneria, Sclerotinia

Seeding & Harvest

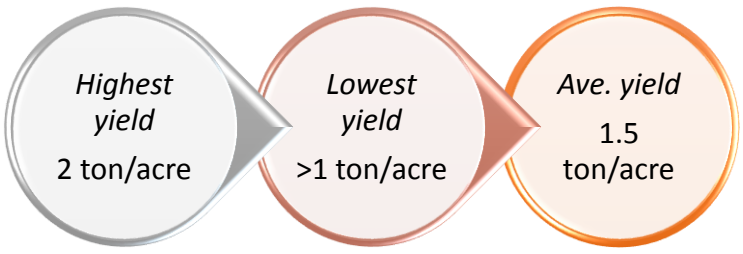
Seeding rate based on variety & seed size; Florent ~283 lbs/acre; target of 45 plants/m2 ; must have 1-2" of soil coverage over seed; keep varieties separated by at least 100m to avoid outcrossing
Lots of equipment worked for seeding once calibrated
Matured when 90% of plants have changed color – most plants are ripe & dry, pods fully filled, bottom pods are tan or black
Dessicate (reglone) by September 10th on a normal year to prevent frost damaged seeds
Straight cut combining approximately 6-8" off the ground
16% dry, 18% preferred to reduce header loss & splitting

Lifecycle

Slow emergence, could be over 3 weeks; grows about a node per week; starts flowering at 8-10 node stage; flowering is a prolonged exercise where top flowers are in bloom while pods are filling at bottom of plant; only about ¼ of flowers actually produce pods in a normal year; 3 to 4 seeds per pod on average

Approximately 540 acres were planted in Temiskaming in 2015. The District had a cool spring with multiple frosts that repeatedly delayed growth. The summer was hot and dry (early to mid-July) in the middle of flowering and pod set, which resulted in very short plants and poor pot set, impacting yields. The plants partially compensated by filling larger than normal pods. The area experienced a late fall frost but most fields were desiccated around September 10, 2015 and were harvested dry. Rainfall shortly after desiccation signaled crop regrowth and the green stems and new leaves became a harvest nuisance.

Emergence was below target (30-40 plants/m2 compared to 45 plants/m2), likely due to shallow seeding. Experienced very minor insect damage, chocolate spot was the most significant disease present in 2015, Ascochyta impacted grain quality more than yield and Alterneria & Sclerotinia were hardly present.



Seeding Equipment

Airseeders performed well provided there were no obstructions below the meter rolls, would work better if seed output split up amongst two tanks (JD 1890/1910)

Aircarts/CIH Drills – no major issues

Box drills – no trouble metering or reaching targeted seeding rates provided meter clearance doors were wide open, worked very well for no-till as ground penetration is excellent (JD 750/1590)

Northern Research

2015 local field trials compared Priaxor vs. Propulse vs. untreated applied at full flower – did not find yield response during trials despite obvious visual differences, appeared to be higher quality grain on treated plots (presumably from lower incidence of Asoschyta); recommending fungicide application

-will conduct additional field trials in 2016

LESSONS

- Select a clean field with reasonably low broadleaf weed pressure
- Avoid fields with fertility issues such as white silty soils with poor soil structure or pH problems: requires good background P & K fertility but avoid fields that have been recently manured as high soil nitrate levels encourage excess vegetative growth and discourage pod set
- Avoid muck – these fields are often full of hemp nettle which is very difficult to control
- Seed as early as the land is ready- fababeans can push through spring frost events
- Seed deeper than almost any other crop (except for corn) – if you can see them on the surface they won't grow
- Ensure the seed is properly inoculated at seeding time either with a powdered peat or granular inoculant
- Apply post emerge herbicides when the plants are about 10 cm high and the weeds are still small – do not tank mix Poast and Basagran as grassy weed control will be disappointing
- Pollinators are very conductive to high yields – try to get some hives nearby
- Use a fungicide – applied at early flower proved very successful in parts of Western Canada and in Quebec, grain quality appeared higher on treated fields in Ontario
- Needs to be desiccated, target application for two weeks before damaging fall frost to avoid quality downgrading

Fababean production in Temiskaming has been facilitated and supported by:

TECC Agriculture

W.A. GRAIN & PULSE SOLUTIONS

NOFIA – Northern Ontario Farm Innovation Alliance

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