



**Leading Canadian agriculture.**

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## Top 10 tips to growing oats

- Variety selection
- Field selection
- Herbicide residues
- Pre-seed burn
- Seeding date
- Seeding rate
- Fertility
- In crop weed control
- Disease control
- Harvest mngt
- ???



# What is a “Premium” Oat?

1. Test weight > 40 lb per bu
2. >90% plump
3. < 2% wheat, barley or wild oats
4. NO heat damaged seed
5. < 4% damaged seed or foreign material
6. <6% dehulled seed...prevents rancidity
7. <13% moisture
8. Preferred variety....

# Miller Preferred Varieties for Sask... ...Low Risk Rust Region

Preferred? *Morgan, Boyer, Dancer, Orrin, Weaver  
Leggett, Betania*

Accepted? *Calibre, Sol-Fi, Derby, HiFi, Kaufman  
Medallion, Ronal, Triple Crown*



# Where Should I Grow Oats?

- Select fields carefully
- Wild oats?
- Other volunteer cereals
- Other weeds?
- Soil quality and uniformity?
- Residual N



## Preseed Weed Control

- More important than for most crops...potential for some control of volunteer cereals / wild oats
- Well established winter annuals
- Prepass...potential residual value



## Seeding Date

- “Late oats are light oats”
  - Late season disease infections esp rust risk
  - Flowering during the hottest part of the summer
- Ag Canada & U of M research supports this...
  - Yield and quality drops significantly after May 15
  - Serious decreases if seeding delayed until June



## Seeding Date - Yield Bushels/acre

Bill May, Agriculture Canada

Seeding Date	Indian Head	Saskatoon	Melfort	Brandon
May 1	127		145	60
May 15	126	103	142	58
June 1	91	94	114	48
June 15	65	67	105	

Blasting!!!

...not heat tolerant

....avoid midsummer  
heat



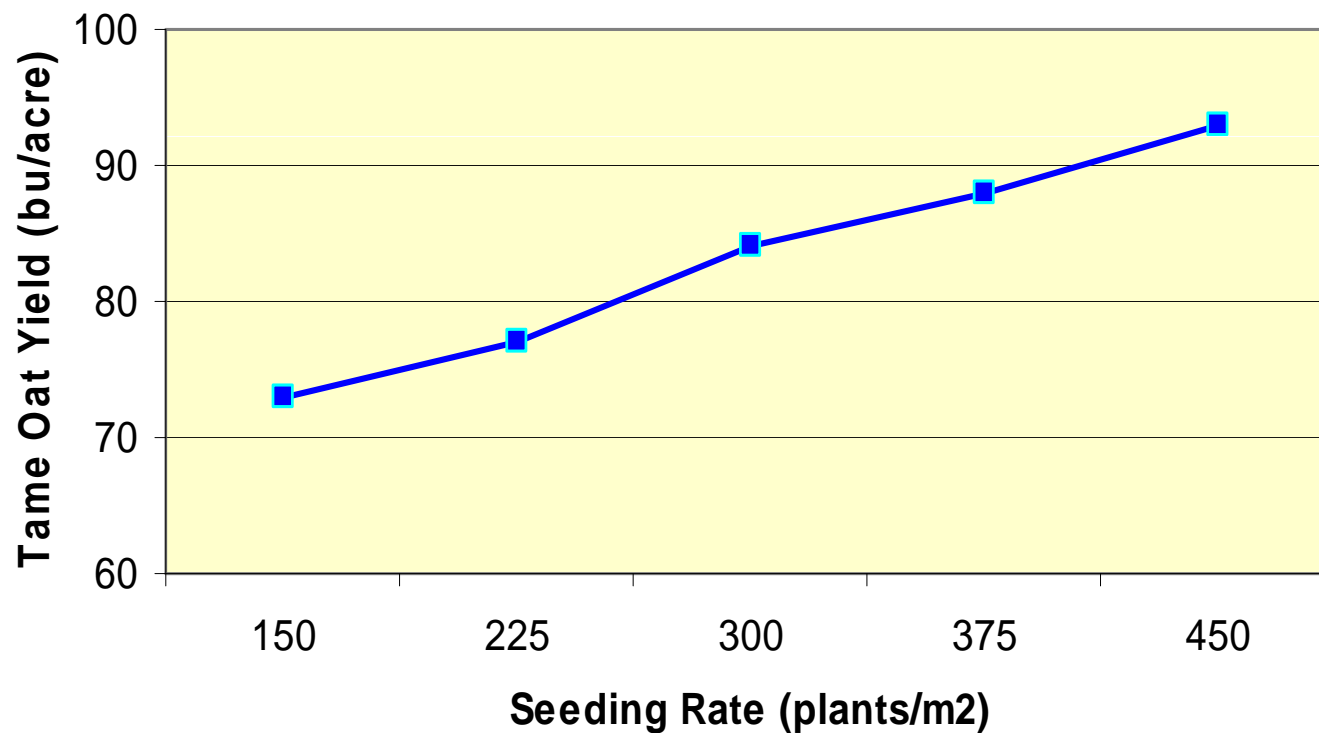


## Seeding Rate.....new research, new advice....

- general recommendation has been 70 to 90 lb seed per acre = 18 to 23 plants per ft<sup>2</sup>
- new research indicates higher rates are better to increase yield and reduce wild oat contamination
- advantage to targeting 90 to 120 lb seed per acre (25 to 30 plants per ft<sup>2</sup>)

## High seeding rate reduces wild oat pressure....

**Figure 1. Effect of Seeding Rate on Tame Oat Yield Under High Wild Oat Pressure (AAFC Research, 1999)**



# Nutrient Demand of Oats

## Pounds per Acre

Grains		N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	S
<b>Spring Wheat</b> 40 bu/A (2690 kg/ha)	uptake <sup>1</sup>	76 - 93	29 - 35	65 - 80	8 - 10
	removal <sup>2</sup>	54 - 66	21 - 26	16 - 19	4 - 5
<b>Winter Wheat</b> 50 bu/A (3360 kg/ha)	uptake	61 - 74	27 - 34	64 - 78	9 - 11
	removal	47 - 57	23 - 28	15 - 19	6 - 8
<b>Barley</b> 80 bu/A (4300 kg/ha)	uptake	100 - 122	40 - 49	96 - 117	12 - 14
	removal	70 - 85	30 - 37	23 - 28	6 - 8
<b>Oats</b> 100 bu/A (3584 kg/ha)	uptake	96 - 117	36 - 45	131 - 160	12 - 14
	removal	55 - 68	23 - 28	17 - 20	4 - 5
<b>Rye</b> 55 bu/A (3450 kg/ha)	uptake	83 - 101	41 - 51	117 - 144	14 - 17
	removal	53 - 64	22 - 27	18 - 22	4 - 5
<b>Corn</b> 100 bu/A (6272 kg/ha)	uptake	138 - 168	57 - 69	116 - 141	13 - 16
	removal	87 - 107	39 - 48	25 - 30	6 - 7

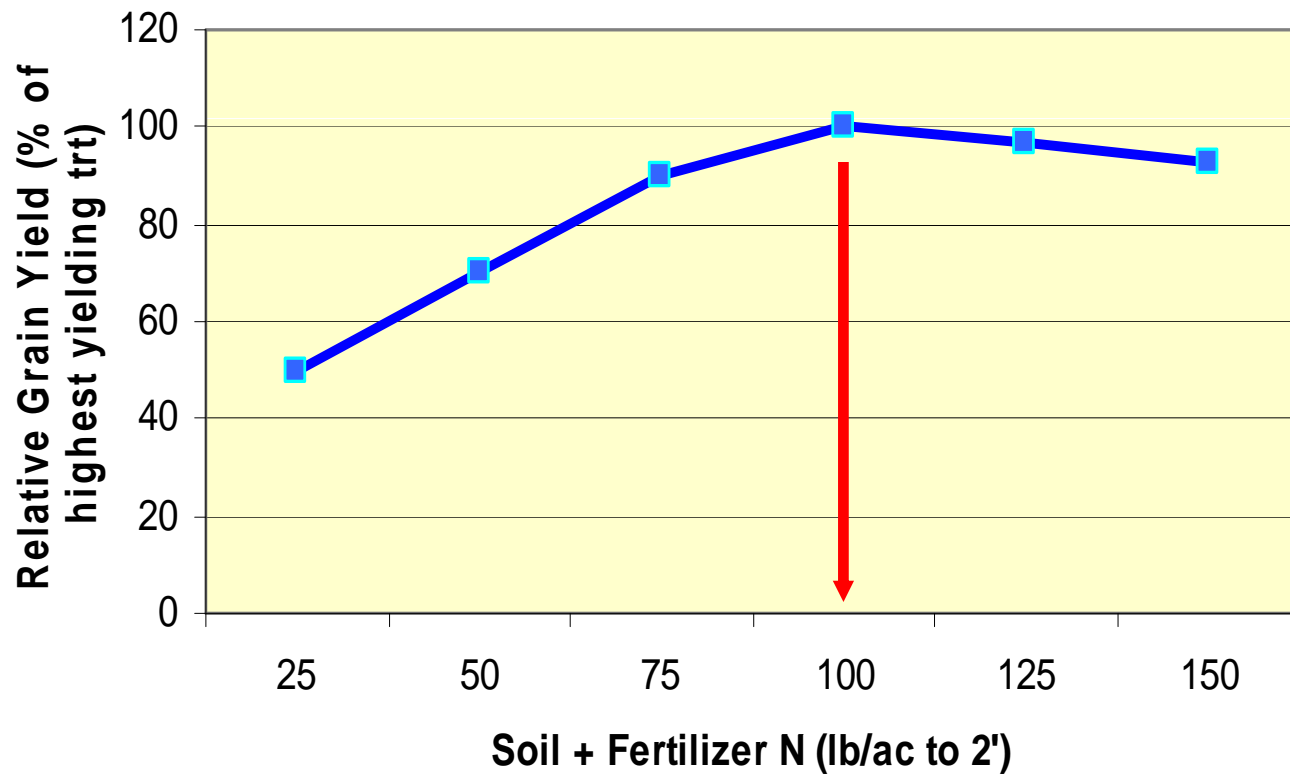
## Nitrogen

1. Soil Test!
2. Rule of thumb.... about 1 lb per bushel ...100 to 120 lb per acre (soil + fertilizer) a maximum rate
3. Too much N....lodging, lower yield, thinner seed



# AAFC / U of M Research

**Relationship Between Relative Grain Yield and  
Soil + Fertilizer N (all N Responsive Sites -  
1998/99)**





# Sulphur

- Highest demanding of the cereals
- Steve Shirtliffe - U of S
  - visual and height differences
  - no impact on yield
  - quality?
  - Consider applying 5-10 lbs/ac

## Micronutrients? Not likely!

Maybe manganese... 'Grey spot' ....foliar applications the cure .... A VERY rare concern





## Weed Control

- Products NOT registered on Oats
  - Ally
  - 2,4-D
  - Triton C
  - Trophy
  - Prestige
- Do NOT grow oats after:
  - Everest
  - Pursuit
  - Assert
  - 2,4-D (Burnoff)



## Wild Oat Management

- Know your field
  - Scouting records
- Wild oats normally 1<sup>st</sup> weed to emerge
  - Control early flushes with pre-seed Roundup
- Air seeder sweeps less effective
  - Often not deep enough, resulting in transplants



## Wild Oats

No herbicide control ... A serious degrading factor along with yield loss

1. Choose fields carefully
2. High seeding rates
3. Try spring burnoff.....before or after seeding
4. Late seeding? but a trade-off on yield?



## Broadleaf Weed Control

Consider both weed control and crop safety...

- Frontline, Spectrum, Logic M/Buctril M, Refine, MCPA

## Is Disease a Concern?

### Leaf and Stem Rust

- variety selection best defence,  
but many preferred varieties have  
weak resistance(eg Morgan, Orrin,  
Weaver)

- arrives on southern wind...a  
bigger concern to SE Prairies

- Minor Concern for N AB!





## Septoria....

The main leaf and panicle disease of oats

....this is NOT 'rust'

Tilt or Pivot is an option... flag leaf

# Harvest

1. Swath when 1/3 panicle mature...stems may still show green
2. Thresh to avoid hull damage....like malt barley...be gentle!





## Pre-harvest Glyphosate?

- Better lodging resistance...straight cutting
  - Earlier harvest, less green, weed control, less mold and seed discoloration, less excretia
  - Not 'endorsed'....but, accepted
  - keep rates no more than 2/3 liter, and seed moisture less than 30% (soft dough)