

## LATE SEEDING OF SOYBEAN

In a normal year seeding soybeans according to calendar dates is never a recommended practice because calendar dates never take into consideration of soil temperatures. In a normal year it is recommended to seed your cereals and canola and then take a long weekend off to go fishing and then seed soybeans. However 2009 is not a normal year. With only 15% of cereals and 5% of canola seeded in the Red River valley as of May 19<sup>th</sup>, 2009 is not a normal year. So for 2009 any time you can get on the ground without making a lot of wheeltracks (not ruts) after May 22<sup>nd</sup> is a good time to seed soybeans in the Red River Valley.

The general rule of thumb is that every 3 day delay in seeding results in a 1 day delay in maturity.

### What is the Yield Potential of Late Seeded Soybeans?

#### MASC Seeding Date Data

According to Manitoba Agricultural Services Corporation (MASC) data, soybean yields in the 3 major growing regions (South Central, RR Valley and Eastern) hold their yield potential up to the end of May (Table1). Seeding delayed into the first week of June and the RR Valley and Eastern region yields remain at 90% while the South Central region drops to 70%. Farmers in the southern portion of RA 5 and 12, south of Hwy #23, are in the warmest part of the Province (Soybean Area 1) and can seed later in June without the yield penalty.

The limited data in the new Soybean Area 3 suggests more caution, and if you can't seed soybeans by the end of May then farmers should consider growing some other crop.

Table 1: Relative yield (expressed as a %) of soybean by seeding date and region.

Seeding Date (week/month)	Soybean Area 1 & 2			Soybean Area 3	
	South Central (RA 5,10,11)	RR Valley (RA 12, 32)	Eastern (RA 14)	Interlake (RA 15)	Southwest (RA 1,2,3)
01/05	NSD	114	101	NSD	NSD
02/05	108	110	105	NSD	97
03/05	100	102	101	NSD	102
04/05	101	98	96	NSD	NSD
01/06	69	92	88	NSD	NSD
02/06	NSD	NSD	26	NSD	NSD

Source: Manitoba Agricultural Services Corporation Seeded Acreage Report Records

Data represents reported seeding date and crop yields of fields >200 acres (1989 to 2008).

NSD = not sufficient data

For a map illustrating MASC Risk Areas:

[http://www.mmpp.com/mmpp.nsf/ym\\_2009\\_09\\_risk\\_areas.pdf](http://www.mmpp.com/mmpp.nsf/ym_2009_09_risk_areas.pdf)

### MPGA Seeding Date Data

Seeding date trials conducted in Morden, Rosebank and Carman from 2006 to 2008 support the MASC data. Soybeans seeded from early May to early June all had similar yield potential (45 bu/acre). The last seeding date (June 8<sup>th</sup> to 20<sup>th</sup>) yields ranged from 15 to 34 bu/acre with harvested seed ranging from #2 to #4.

Seeding date trials in Arborg showed a more drastic effect of delayed seeding. When seeding was delayed until late May/early June yields dropped 10 bu/acre compared to soybeans seeded in early to mid May. Further delay of seeding until mid June saw yields drop roughly below half compared to soybeans seeded in early to mid May with poor seed quality on the later varieties. Arborg was the location that benefited the most from switching to an earlier maturing variety.

### **MASC (Crop Insurance) Seeding Deadlines**

Soybean is eligible for full and extended coverage.

<b>Soybeans</b> <a href="#">(map)</a>	<b>Full Coverage</b>	<b>Extended Coverage</b>
<b>Soybeans (all varieties)</b>	Area 1: June 6th, Areas 2 and 3: May 30th	Area 1: June 7th - June 11th, Areas 2 and 3: May 31st - June 4th

For more information on seeding deadlines, and any restrictions that may apply to your crop coverage for the 2009 season, check with your local MASC agent or visit their website: [http://www.masc.mb.ca/masc.nsf/crop\\_summaries.html](http://www.masc.mb.ca/masc.nsf/crop_summaries.html)

### **Tips for Seeding into Cool soils**

**Seed shallow.** Soybean emergence is directly related to soil temperature (Table 2). Soybeans will take 21 days to emerge at 10 C and 12 days at 16 C. Seeding into cold soils (<10 C) is not recommended. If you have to seed into colder than desired soils, seed as shallowly as possible (as soil temperature decreases with depth) with a fungicidal seed treatment. Waiting to seed until the afternoon when the soil at seeding depth warms up is advised for those wishing to push soybeans in early.

Table 2. Days to Emergence at Different Soil Temperatures Soybean

Soil Temperature		Days to emergence
°F	°C	
50	10	21
60	16	12
70	21	7
80	26	4

**Don't speed when seeding.** 5 mph is recommended. Seeding faster than 5 mph, the poorer the crop will be. Good seed-soil contact and uniform seeding depth is still important.

**Use a fungicide seed treatment.** This will help achieve the targeted plant stand. As soil temperatures warm up the need for a fungicide seed treatment is reduced.

### **Tips When Seeding towards the end of the MASC Deadlines**

**Use your Air Seeder.** Research from North Dakota and Minnesota shows that with late seeded soybeans, seeding in narrow rows out yields soybeans seeded in 22 or 30 inch rows. This is because the narrow rows have faster canopy closure which maximizes sunlight collection.

**Don't Skimp on Seed.** With delayed seeding, the faster you get ground cover the higher your yield potential.

**Change to an earlier variety.** It is better to get 100% yield from an earlier maturing variety than having a killing frost hit a green soybean field.

**If it gets too late in June, don't be afraid to plant something else.**

Recalculate your Cost of Production (COP) using a revised, lower yield. Using updated numbers may make the decision easier to make.

### **Physiological Explanation**

With delayed seeding, soybeans require fewer days to reach maturity. This is because soybeans are photoperiod sensitive and that as the days begin to get shorter (after the Summer Solstice on June 23<sup>rd</sup>) soybeans will try to flower as long as the plant is large enough. Soybeans seeded in early May will start to flower around July 5<sup>th</sup>, while soybean seeded in late May aren't large enough at the Summer Solstice and won't start to flower until mid July. Delayed seeding means that the soybean plants have shorter vegetative period and a shorter flowering period. Late seeded plants have fewer nodes per plant which limits the number of potential pods on the plant. The amount of yield loss, if any with delayed seeding is determined by the weather during July and August. If July and August are hot with timely rains then yield depression is minimal to none. If the weather is not ideal during pod fill then loss in yield potential will be seen. Again, the general rule of thumb is that every 3 day delay in seeding results in a 1 day delay in maturity.

### **For more information, contact:**

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