

9-1-1995

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Recommended Citation

Hall, Robert G., "Changing Corn Hybrids or Soybean Varieties When Seeding Is Delayed" (1995). *Extension Extra*. Paper 314.
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Extension Extra

ExEx 8117
September 1995
Plant Science

SOUTH DAKOTA STATE UNIVERSITY / U.S. DEPARTMENT OF AGRICULTURE

Changing Corn Hybrids or Soybean Varieties When Seeding Is Delayed

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Inclement weather during the corn and soybean planting season causes many growers to inquire about changing corn hybrids and soybean varieties as a result of delayed seeding. Growers should not change maturities until seeding is delayed to late May for corn and early June for soybeans.

Suggested maturity changes for corn are shown in Tables 1 and 2, depending on whether you use "relative maturity" (RM) or "growing degree days" (GDDs) to evaluate hybrid changes. The method you use will likely depend on which method is used by your seed dealer.

Exercise caution when using the RM rating system. The terms "relative maturity" and "days to maturity" have different meanings. The latter terms means the number of days remaining until maturity. In contrast, the term "relative maturity" is a maturity group defined by certain testing criteria. The most familiar RM rating system for South Dakota growers is probably the Minnesota RM rating system. In this system, RM groups are assigned to several locations starting with a 75-day RM in the north and continuing in 5-day increments to 115-day RM in the south. Each RM group has standard hybrid checks. Test hybrids

must have a grain moisture content within a certain range of these standard checks to qualify for a given RM group. If test hybrids are too high in moisture, they are moved to a higher RM group. Likewise, if test hybrids are too low in moisture, they are moved to a lower RM group.

Suggested maturity changes (Table 1) are based on the Minnesota RM rating system and decrease in 5-day RM increments for each 10 days delay in seeding. The change for the May 10 - 20 seeding decreases for the 105 - 115 day RM but not for the other starting relative maturities. Research from the Southeast Research Farm suggests that the maturity of the highest RM group needs to change by about May 20 while other RM groups need not change until May 21- 31.

These changes are only suggestions. For example, you may have a 95-day RM hybrid on hand for seeding on May 20. If you can seed by May 25, you probably don't need to change. However, if you can't seed until about May 27, you should change to at least a 90-day RM hybrid.

The changes in Table 1 are in increments of 10 days. Don't hesitate to use early or late RM hybrids within a

Table 1. Suggested corn relative maturity changes as a result of delayed seeding.

Spring Seeding Date	Starting Corn Hybrid Relative Maturity		
	105 - 115 Day	95 - 105 Day	85 - 95 Day
	----- Suggested Relative Maturity Change -----		
May 10 - 20	100 - 110	95 - 105	85 - 95
21 - 31	95 - 105	90 - 100	80 - 90
June 1 - 10	90 - 100	85 - 95	75 - 85
11 - 20	85 - 95	80 - 90	70 - 75

Table 2. Average growing degree days (GDD's) lost between given spring seeding dates and delayed seeding dates. Adapted from Nielsen et al. 1994. Hybrid maturity selection for delayed planting: Do GDD maturity ratings help? American Seed Trade Association Corn & Sorghum Conference, Chicago, IL.

Spring Seeding Date	Delayed Seeding Date									
	May					June				
	6	11	16	21	26	1	6	11	16	21
----- Number of GDD's lost between seeding dates -----										
May 6	0	25*	50	75	100	125	150	175	200	225
May 11	-	0	25	50	75	100	125	150	175	200
May 16	-	-	0	25	50	75	100	125	150	175
May 21	-	-	-	0	25	50	75	100	125	150
May 26	-	-	-	-	0	25	50	75	100	125
June 1	-	-	-	-	-	0	25	50	75	100

*On average about five GDD's are lost for each calendar day delay in spring seeding date in the cornbelt states.

suggested range if it fits your needs. Make maturity changes ahead of time when possible. Stick with your original maturity if the delayed seeding date is marginal.

If your seed company uses their own RM rating system, then use their system. Comparing maturities between companies may be difficult since they use different hybrids as standard checks. Therefore, use caution when comparing hybrid maturities between companies.

Another method for evaluating maturity changes is by using growing degree days (GDDs) or heat units. Table 2 shows the average number of GDDs lost between a given spring seeding date and a delayed seeding date. For example, if you normally seed the first week of May and are delayed to the first week of June, you have, on average, lost 30

calendar days or 150 GDDs (30 days x 5 GDDs). You could then change to a hybrid with 150 fewer GDDs than your original hybrid. On average, this would result in acceptable yields, test weights, and grain moisture levels.

If possible, start changing soybean maturities the first week of June. Thereafter, drop the maturity about 6 days for every 15 days delay in seeding (Table 3). For example, if you normally seed a mid-II variety in mid-May, switch to a mid-I after June 1, to a late-0 after June 16, and to an early-0 or later maturity after July 1. These changes are based on average seeding date and beginning soybean maturity, not on location. Generally, you know what maturity is best for your area. Therefore, use your beginning soybean maturity and make changes according to Table 3.

Table 3. Suggested soybean variety maturity changes as a result of delayed seeding.

Delayed Seeding Date	Beginning Soybean Maturity			
	Mid-II (0* days)	Mid-I (-6* days)	Late-0 (-12 days)	Early-0 (-18 days)
----- Relative Maturity Changes in Days -----				
June 1-15	Mid-I (-6 days)	Late-0 (-12 days)	Early-0 (-18 days)	Late-00 (-24 days)
June 16 -30	Late-0 (-12 days)	Early-0 (-18 days)	Late-00 (-24 days)	
July 1-15	Early-0 (-18 days) or later	Late-00 (-24 days)		

* 0 days = base maturity; -6, -12, -18 and -24 days equals 6, 12, 18, and 24 days earlier than base maturity (0).



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450 copies printed by CES at a cost of 5.5 cents each. September 1995.