

Planting Corn in June and July! – What can you expect?

Joe Lauer, *Corn Agronomist*

Unprecedented rainfall continues to cause flooding and ponding leading to problems for corn establishment on 5 to 10% of planted acres in southern Wisconsin. Flooded and ponded areas have existed long enough now so that plants have been killed and areas need to be replanted. Most planted acres are still in good shape, but fertilizer and herbicide treatments need to be applied as soon as possible since the majority of the crop is at the V4-V5 stage and lay-by (V-10) will be occurring within the next two weeks. What is difficult to predict is the health of plants on the fringes of ponded areas in a field. These saturated areas have likely had N leaching and denitrification as well as impacts on plant health that will show up later in the life cycle.

For areas of fields that have been killed by flooding or ponding the following guidelines should be considered.

1. Corn can be planted for grain until June 1-5 in northern Wisconsin and until June 10 in southern Wisconsin. Risk has increased from earlier planting dates and is as great as average yield with increasing downside risk and frequent yield extremes caused by the environment.
2. After June 10, the only viable grain option is soybean until the last week of June.
3. Corn can be planted for silage uses until about June 24.
4. During the last week in June, the objective of growers needs to change from planting crops for grain and silage production to emergency dry matter production.
5. Finally, consider whether a crop should be planted at all? The best decision may be to fallow the land and control weeds.

Numerous emergency forages have been tested (<http://www.uwex.edu/ces/forage/wfc/proceedings2003/emergencyforage.htm>). These results indicate that corn

can be good emergency forage when planted in June and July.

We conducted experiments during 2005 and 2006 to determine what could be expected by planting corn in June and July. Three corn hybrids (brown midrib, full-, and shorter-season) were planted on five different dates from April 28 to August 1 at Arlington, WI. The 2005 growing season had a killing frost on October 26, which was three weeks later than normal.

Seasonal dry matter production after planting during July ranged from 0.7 to 7.5 Tons DM/A while the same hybrids planted April 28 to June 1 produced 8.7 to 10.0 T DM/A (Table 1). Milk per acre is significantly lowered 92 to 17% to levels ranging from 2,300 to 24,000 lbs milk/ A for planting dates in July. Crude protein, NDF and NDFD increased with later planting dates. Although, little starch content was measured in later planting dates, overall milk per Ton tended to decrease slightly. Thus, relatively small changes in Milk per ton occurred during planting dates in July with levels ranging from 2600 to 3200 lbs milk/T, which was a 16 to 22% decrease from corn planted April 28 to June 1.

Full-season hybrids produced the greatest dry matter yield and Milk per acre when planted during July (Table 2). No significant interaction among corn hybrid types was measured for Milk per Ton, although brown midrib hybrids tended to produce the best quality.

Corn can produce significant dry matter yield when planted during July, but the amount produced depends upon when a killing frost occurs. Growers need to check on options available from their insurance companies before taking action and planting corn in late June and July for emergency forage. Herbicide labels must be adhered to before switching to other crops. A small amount of fertilizer may be justified in replanted areas. There is no guarantee that flooding and ponding will not occur again later during the growing season.

Table 1. Corn silage yield and quality response to planting date at Arlington, WI. Values are averaged across brown midrib, full- and shorter-season hybrids.

Planting date	Harvest date	Season GDUs	Forage yield	Crude protein	NDF	NDFD	Starch content	Milk (2006)	
			T/A	%	%	%	%	lbs/T	lbs/A
2005									
April 29	September 9	2369	9.5	7.4	43	60	34	3400	32500
June 1	September 21	2325	10.0	7.0	46	59	32	3300	33300
June 30	November 1	1996	7.5	7.7	51	62	20	3100	24000
July 15	November 1	1694	5.6	8.2	54	66	12	2900	16500
August 1	November 1	1304	2.8	9.6	59	73	1	2600	7300
R2			0.82	0.99	0.99	1.00	0.92	1.00	0.94
2006									
April 28	September 8	2242	9.1	7.7	45	57	33	3300	29700
June 1	October 25	2197	8.7	8.4	42	56	35	3300	28900
June 30	October 25	1723	5.9	8.9	55	63	18	3100	18500
July 14	October 25	1442	3.5	10.3	68	64	0	2800	10000
July 31	October 25	1036	0.7	12.4	68	75	0	3200	2300
R2			0.97	0.96	0.99	1.00	0.79	NS	0.99

GDUs= Growing Degree Units from planting until harvest or killing frost

Date when minimum temperature <= 28 oF: 2005= October 26; 2006= October 12

Table 2. Corn silage yield and quality response to planting date at Arlington, WI. Values are averages of 2005 and 2006.

Planting date	Forage yield	Crude protein	NDF	NDFD	Starch content	Milk (2006)	
	T/A	%	%	%	%	lb/T	lb/A
Full-season hybrid (108 d RM)							
April 29	10.0	7.4	43	56	35	3300	33300
June 1	10.3	7.3	44	55	34	3300	33800
June 30	7.5	8.0	56	60	17	3000	22600
July 15	5.3	9.4	61	63	8	2900	15300
August 1	2.1	11.1	64	72	1	2800	5600
R2	0.87	0.82	0.76	0.87	0.88	0.57	0.87
Shorter-season hybrid (94 d RM)							
April 29	9.4	7.4	42	55	37	3300	31500
June 1	9.4	7.7	41	54	39	3300	31300
June 30	7.0	8.6	50	57	23	3100	21900
July 15	4.7	9.5	60	63	8	2800	13500
August 1	1.9	11.3	63	72	1	2800	5000
R2	0.89	0.79	0.82	0.91	0.88	0.54	0.90
Brown midrib hybrid							
April 29	8.4	7.9	47	63	28	3400	28500
June 1	8.3	8.2	47	64	27	3400	28200
June 30	5.9	8.3	53	69	17	3300	19300
July 15	3.8	9.0	62	73	3	2900	10900
August 1	1.4	10.6	65	79	0	3000	3800
R2	0.89	0.78	0.79	0.89	0.89	0.47	0.88
Hybrid * Planting date interaction	**	**	**	**	**	NS	**

Bmr hybrid: 2005= 112 d RM and 2006= 102 d RM