

2008 Corn Silage Crop¹

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The 2008 corn crop for silage has primarily been harvested by this time. As is often the case, this year's weather conditions, especially the limited rainfall, have presented some challenges. Although the overall rainfall for Ohio from June through September has been less than normal, some areas have received average or above average rainfall (Table 1). These localized conditions certainly affected the growth of corn, but the precipitation in September (Table 1) also affected the yield and dry down rate of the corn for silage. Overall, the low precipitation in September resulted in some harvesting challenges for corn silage:

- 1) The dry down was very rapid in some areas due to low rainfall. This may have caused difficulty in getting the corn silage harvested at the proper dry matter (~35%). Thus, drier than desired corn silage will not ferment as well, pH will not drop sufficiently for stable corn silage, and molds may develop in the silage.
- 2) Fields were very variable in growth, depending on whether the corn was in a high or low spot, with the lower elevation resulting in more moisture for plant growth.
- 3) For some fields in certain areas of Ohio, the plants died abruptly and the dry down progressed rapidly.
- 4) For certain areas, the size of the stalk was less than normal. This decreased yield, and depending on ear development, it can certainly affect the stalk to ear ratio relative to energy value of the silage.

The conditions described above may have caused the composition of the corn silage to differ from field to field, within the county, and across the State. The analytical composition of the new crop is just becoming available (Table 2), and although the composition and variability of the corn silage from this year's crop appears to reveal no less quality compared to last year's crop, keep in mind that the September 2008 data provided are primarily from corn silage samples from NY and PA and the variability may be more or less within a farm and county. Therefore, the following suggestions are provided:

- 1) With potentially lower yields, now is the time to take inventory of the forage needed for 2008 and 2009 versus the forage stored and make plans accordingly.
- 2) The dry matter content of the silage may vary from field to field, harvest time, and speed of harvest, thus dry matter of the silage needs to be monitored weekly for adjustments to the ration.
- 3) The energy content of the corn silage may be lower this year in some areas due to less ear development. The smaller stalks may not have a positive affect on energy value because of the poorer ear development.

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- 4) Analysis of the composition of the silage will be very critical for the proper balancing of diets with this year's crop.
- 5) If the crop was considerably limited in growth and N application was normal to high, nitrates may be elevated in the silage. Make sure to let the crop ferment for at least 2 to 3 weeks and the risk of the nitrates should be very minimal with this year's conditions.
- 6) Watch for mold in the silage. Discard spoiled silage and discuss options for using feed additives if there is moderate to high risk for the presence of mycotoxins.

Table 1. Temperature and precipitation in Ohio during June through September.¹

Location	June 1 – October 1, 2008				September 2008
	High Temp. (°F)	Low Temp. (°F)	Average Temp. (°F)	Precipitation (inches)	Precipitation (inches)
Columbus	82.9	60.4	71.4	13.2 (15.9)	1.8 (3.1)
Custar (Wood County)	84.1	59.9	71.7	13.0 (13.1)	4.0 (2.8)
Jackson	82.4	58.1	70.2	14.2 (15.0)	1.2 (3.2)
South Charleston	82.0	59.7	70.3	15.4 (14.9)	1.4 (3.1)
Wooster	80.1	57.1	68.5	14.4 (14.9)	1.4 (3.1)

¹Data summarized from OARDC weather system (<http://www.oardc.ohio-state.edu/newweather>). The number in parentheses is the normal precipitation.

Table 2. Composition of corn silage (data taken from Dairy One Laboratory, Ithaca, NY, <http://www.dairyone.com>).

Item	May 2007 – April 2008 ¹			September 2008 ²		
	Average	St. Dev.	CV (%) ³	Average	St. Dev.	CV (%) ³
Dry matter, %	32.9	5.8	17.6	32.5	5.2	16.0
Crude protein, %	8.2	1.1	13.4	7.9	0.8	10.1
Neutral detergent fiber, %	43.4	5.6	12.9	42.8	5.0	11.7
Acid detergent fiber, %	25.6	3.9	15.2	25.1	3.3	13.1
pH	3.94	0.34	8.6	3.94	0.16	4.1

¹Number of samples exceeded 18,000, except for pH with 1,400 samples.

²Data primarily from New York and Pennsylvania; 432 to 435 samples except for pH with 40 samples.

³CV= coefficient of variation = (standard deviation/average) * 100; a measure of variability.