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Relationship Between Kernel Growth Stage at Harvest and Silage Dry Matter Production in Corn

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Periodically, corn growers inquire about the silage potential of corn at a given growth stage. Table 1 shows how the silage potential of corn differs among kernel growth stages. Note the silage dry matter (DM) yield of corn doubles from the silk to the full dent stage. In addition, the increase in percent of maximum silage DM yield for each stage from silk to early dent is 10%. Thereafter, maximum DM yield increases 20% from early to full dent.

The corn silage data represented in Table 1 is from Wisconsin. Presently, there is no such data for South Dakota. Values for silage in South Dakota would likely differ from the values reported in Table 1. However, we would expect to see somewhat similar increases in percent maximum DM yields per growth stage in South Dakota as corn matured from the silk to full dent stage.

Table 1. Relationship between corn kernel growth stage at harvest and silage dry matter (DM) yield.

Kernel Growth Stage	Days to Full Dent	Percent Maximum DM Yield	Silage DM Yield	
			Grain Yield Potential	
			100 B/A	125+ B/A
			----- DM, T/A -----	
Silk	40	50	2.1	2.7
Blister	30	60	2.5	3.7
Late Milk - Dough	20	70	2.9	3.8
Early Dent	10	80	3.4	4.3
Full Dent	0	100	4.3	5.4

Source: Adapted from Hanway, J.J. 1966. How a corn plant develops. Iowa State University, Coop. Ext. Serv. Spec. Report No. 48, 17 p.; and Burger, B.A. 1993. Unpublished results, University of Wisconsin.

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