

What's Cropping Up?

A NEWSLETTER FOR NEW YORK FIELD CROPS & SOIL

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Currently, we recommend seeding rates of about 30,000 kernels/acre for grain corn and about 34,500 kernels/acre for corn silage on most silt loam soils in New York. On soils that are deep with high water-holding capacity, seeding rates can be inched upward by a couple of thousand kernels/acre. Conversely, on soils that are shallow and/or droughty, seeding rates can be inched downward by a couple of thousand kernels/acre. Also, hybrids vary in their response to seeding rates so growers should communicate with their seed representative to determine if seeding rates for the selected hybrids require further fine-tuning. New hybrid releases with new traits are offered annually so we believe that it is important to periodically test seeding rates for grain corn and corn silage using new hybrid releases to validate our current recommendations.

We conducted a 3-year field scale study on a moderately

Planting Rates for Grain Corn and Silage

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well drained silt loam soil where we evaluated the grain yield response of a Pioneer hybrid (different one each year) at four seeding rates, replicated six times, in plots that measured about 0.20 acres in size. Planting dates were in early May in 2006 and 2008 and mid-May in 2007. Plots were harvested with a 6-row combine in late October of each year at moistures close to 20%. When averaged across years, the 29,600 kernel/acre seeding rate resulted in optimum yields (Table 1). In 2008, however, when yields were exceptionally high, the 34,200 kernel/acre seeding rate did best. Nevertheless, we believe that in most years an approximate 30,000 kernel/acre seeding rate will result in the most profit on moderately well drained silt loam soils. If a grower routinely pushes 200 bu/acre in yield, the grower should experiment on their farm to determine if a 32,000 or 34,000 kernel/acre seeding rate

yields best.

Leafy (TMF) and brown midrib (BMR) hybrids have been developed specifically for silage use, whereas Pioneer and DeKalb hybrids typically are dual-use. We initiated a 3-yr study at the Aurora Research Farm in 2008 to determine if our recommended 34,500 kernel/acre seeding rate recommendation was valid for the different hybrid types. When averaged across the four hybrids, the 35,000 kernel/acre seed-

ing rate did indeed yield best (Table 2). There were some subtle differences, however, in hybrid responses. The two Pioneer hybrids (3489 and 33T55) tended to yield best at the 40,000 kernel/acre seeding rate, whereas the two DeKalb hybrids (DKC61-69 and DKC63-42) tended to yield best at the 30,000 kernel/acre seeding rate. The two leafy (TMF2Q716 and X28566) and two BMR hybrids (F2F566 and F2F610), however, yielded best at the 35,000 kernel/acre seeding rate. Final stands differed among the hybrids (data not shown) so

Table 1. Harvest populations and grain yield of one hybrid at four seeding rates in 2006, 2007, and 2008 and pooled across years at the Aurora Research Farm in Cayuga Co., NY.

RATE	HARVEST POPULATION				GRAIN YIELD			
	2006	2007	2008	Avg.	2006	2007	2008	Avg.
	-----plants/acre-----				-----bu/acre-----			
~27500	23874	23700	24820	24131	144	130	187	154
~29,600	25888	25825	26187	25967	156	134	189	160
~32,100	28904	28480	29378	28921	150	132	188	157
~34,200	31691	29830	31698	31073	157	133	197	162

Table 2.

RATE	SILAGE YIELD				
	Pioneer	DeKalb	Leafy	BMR	Avg.
	-----tons/acre-----				
~25,000	27.6	28.6	25.1	24.4	26.4
~30,000	29.8	28.9	27.2	26.2	28.0
~35,000	30.0	29.1	29.5	27.3	29.0
~40,000	31.4	29.1	28.8	26.5	28.6

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that may have influenced the somewhat different responses to seeding rates among the four hybrid types in this study. We have not analyzed silage quality yet, which also plays a role in seeding rate recommendations for corn silage. Nevertheless, in a high-yielding year, the recommended 35,000 kernel/acre seeding rate approximated maximum yield for most of the hybrid types. We will continue this study for 2 more years before finalizing our results. Meanwhile, we continue to recom-

mend seeding rates of about 34,500 kernels/acre for corn silage production and about 30,000 kernels/acre for grain corn on most silt loam soils in New York.

