

Corn Populations, Planting Dates, And Row Widths

URBANA, ILL.

Mike Roegge, University of Illinois Extension, Adams/Brown Unit, reports that corn population studies have been conducted for many years, and results from the most recent studies indicate that corn populations of 30-35,000 seem to be the optimum. Some interesting questions regarding corn populations for some of the more expensive seed corn hybrids have been asked. What populations are optimum for corn when it's priced anywhere from under \$150 per bag to over \$250 per bag, which would equate to a per acre seeding cost from \$62-\$104 (at 33K per acre).

As it turns out, there really isn't much difference for optimal population regardless of seed cost. Iowa State ran a comparison examining seeding rates for corn priced from \$140 to over \$300 per bag, using a selling price of \$3.25 (which is a little low) but the optimum was essentially the same (between 30-35K). Although as seed price increased the advantage to the 30K population became a little more evident.

Emerson Nafziger, Extension Agronomist, ran a comparison of corn seeding rate economics comparing \$5 corn at \$200 per bag to \$3 corn at \$300 a bag (a very wide range). The optimum populations were 35K (for the first scenario) and 33K (for the second). He used those specific corn prices and seed costs because there was such a large difference.

Corn planting date studies again show that early and late April corn have the advantage

over mid May corn. Although there were a number of instances the past two years in which late planting (May and into June) have yielded as well as April. But the unusually high rainfall (and cooler temperatures) of the past two years were mostly responsible for that.

Lastly is the issue of row widths. About 10 years or so ago, 20" rows began to be experimented with. And there are some producers which utilize that row width. Research across the Midwest showed an advantage to the narrower row width as you moved north in the corn belt. Probably because of a shortened growing season and utilizing a larger amount of sunlight by having corn shading the rows quicker to take advantage of as much photosynthetic capacity as possible. At pollination, you want to see 95 percent plus sunlight interception. Any time sun hits the ground and is not intercepted by corn leaves is lost potential energy.

The past two years, advances in planters allowed twin row planters. These have twin 7" rows spaced 30" apart. Again the goal is to capture sunlight more efficiently and quicker, leading to higher yields. Researchers and producers across the Midwest have compared those row widths. Emerson Nafziger has data from 2008-09 which shows no yield response to twin row corn at populations from the high 20's to the low 40's. This research was conducted at Urbana, so it's only one location. Thus far it appears that" is still the optimum for our area. Δ



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