Sweet Corn Planting Populations (2024)

BACKGROUND

Optimum final plant density is required to ensure maximum factory recovery and field yield. Work was done over 10 years ago to determine the optimum planting populations for sweet corn. Since then, very few hybrids tested at that time are still being planted today and the planting population recommendation may no longer be viable. Similarly, only one optimum planting population was established, giving little consideration to the growth habit differences between hybrids. As genetics improve, some hybrids may express greater stress tolerance, particularly to crowding stress.

OBJECTIVE

Evaluate eight (8) commercial sweet corn hybrids on their response to varying planting density in regards to yield and theoretical recovery.

MATERIALS & METHODS

The trial was conducted as a randomized complete block design, replicated in plots seeded 4 rows wide, 20’ (feet) long. The following planting populations were evaluated: 15,000 seeds/acre, 20,000 seeds/acre, 25,000 seeds/acre, and 30,000 seeds/acre
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All crop nutrition and weed control was managed as per industry standard.

In total, 8 hybrids were tested, with five (5) of those being tested for the second consecutive year.

Plots were evaluated to determine the final plant stand at the 3-leaf stage by counting the number of plants emerged in the middle two (2) rows of each plot.

At harvest, all cobs were harvested from one of the middle two rows of each plot and weighed. A minimum 30-cob representative sub-sample from each plot was taken from ears greater than 2” in diameter and processed to obtain theoretical recovery. It is assumed that ears less than 2” in diameter would not be harvested mechanically.

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RESULTS

Below is all data from the 2024 trial season on all hybrids tested. Graphs included following Table 1 may include data from 2024, or combined 2023 and 2024 trial years.

Table 1: 2024 corn hybrid response to planting population

2024 Harvest Data							
Variety	Desired Population	Final Population	Ears Harvested	Ears/Plant	Weight of Harvested Ears (lbs)	Average Harvestable Ear Weight (lbs)	Estimated Yield (t/ac)
Hybrid A	15,000	15,000	15.8	1.05	16.94	1.08	8.47
Hybrid A	20,000	20,000	18.3	0.91	16.99	0.93	8.49
Hybrid A	25,000	27,000	24.5	0.91	19.32	0.79	9.66
Hybrid A	30,000	30,000	26.8	0.89	19.40	0.73	9.70
Hybrid B	15,000	15,000	17.8	1.18	15.84	0.89	7.92
Hybrid B	20,000	20,000	20.8	1.04	18.54	0.89	9.27
Hybrid B	25,000	24,000	22.0	0.92	18.89	0.86	9.44
Hybrid B	30,000	25,000	24.8	0.99	19.84	0.80	9.92
Hybrid C	15,000	16,000	22.5	1.41	20.30	0.90	10.15
Hybrid C	20,000	19,000	22.3	1.17	19.29	0.87	9.65
Hybrid C	25,000	25,000	27.3	1.09	23.26	0.85	11.63
Hybrid C	30,000	27,000	24.0	0.89	25.33	1.06	12.66
Hybrid D	15,000	18,000	22.8	1.26	20.71	0.91	10.35
Hybrid D	20,000	21,000	24.3	1.15	20.92	0.86	10.46
Hybrid D	25,000	26,000	27.5	1.06	21.04	0.76	10.52
Hybrid D	30,000	24,000	14.8	0.61	20.38	1.38	10.19
Hybrid E	15,000	18,000	20.3	1.13	17.21	0.85	8.61
Hybrid E	20,000	21,000	24.0	1.14	20.39	0.85	10.20
Hybrid E	25,000	22,000	22.5	1.02	18.38	0.82	9.19
Hybrid E	30,000	30,000	23.8	0.79	17.13	0.72	8.56
Hybrid F	15,000	14,000	24.8	1.77	19.69	0.80	9.85
Hybrid F	20,000	20,000	27.0	1.35	20.68	0.77	10.34
Hybrid F	25,000	26,000	27.5	1.06	21.17	0.77	10.58
Hybrid F	30,000	32,000	31.0	0.97	22.07	0.71	11.04
Hybrid G	15,000	11,000	15.0	1.36	14.25	0.95	7.13
Hybrid G	20,000	17,000	19.8	1.16	19.63	0.99	9.82
Hybrid G	25,000	22,000	20.8	0.94	17.67	0.85	8.83
Hybrid G	30,000	25,000	24.3	0.97	20.31	0.84	10.16
Hybrid H	15,000	12,000	13.0	1.08	11.55	0.89	5.78
Hybrid H	20,000	17,000	14.3	0.84	12.58	0.88	6.29
Hybrid H	25,000	15,000	17.0	1.13	13.53	0.80	6.76
Hybrid H	30,000	23,000	19.3	0.84	15.39	0.80	7.70

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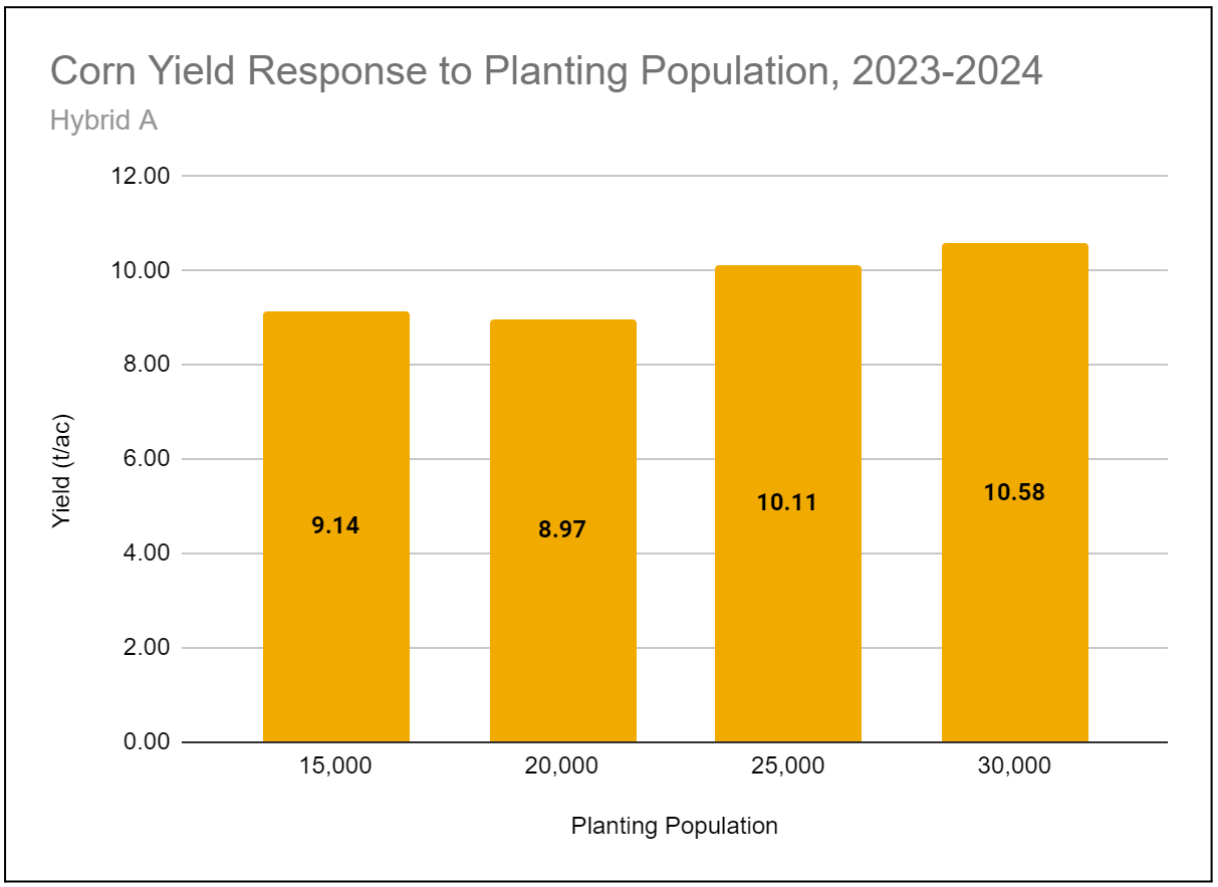
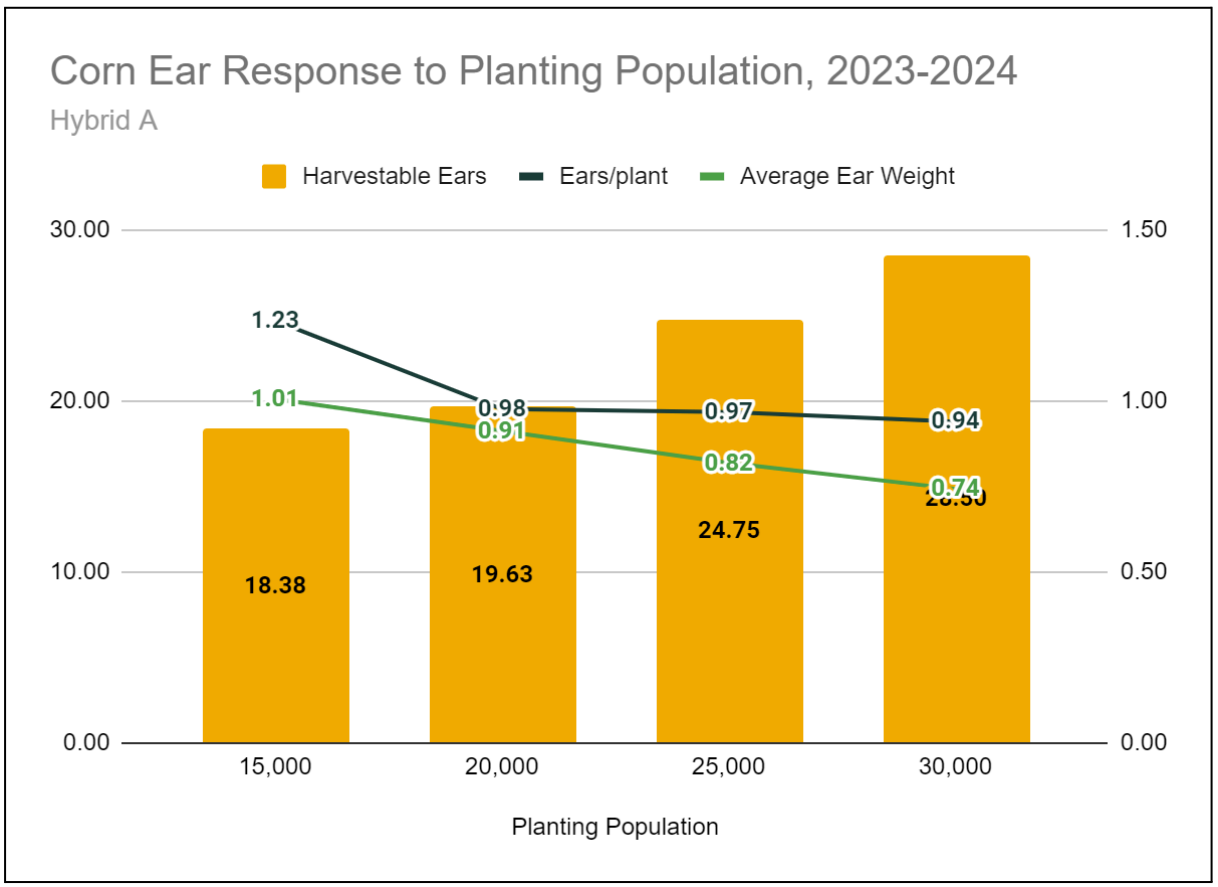
Hybrid A





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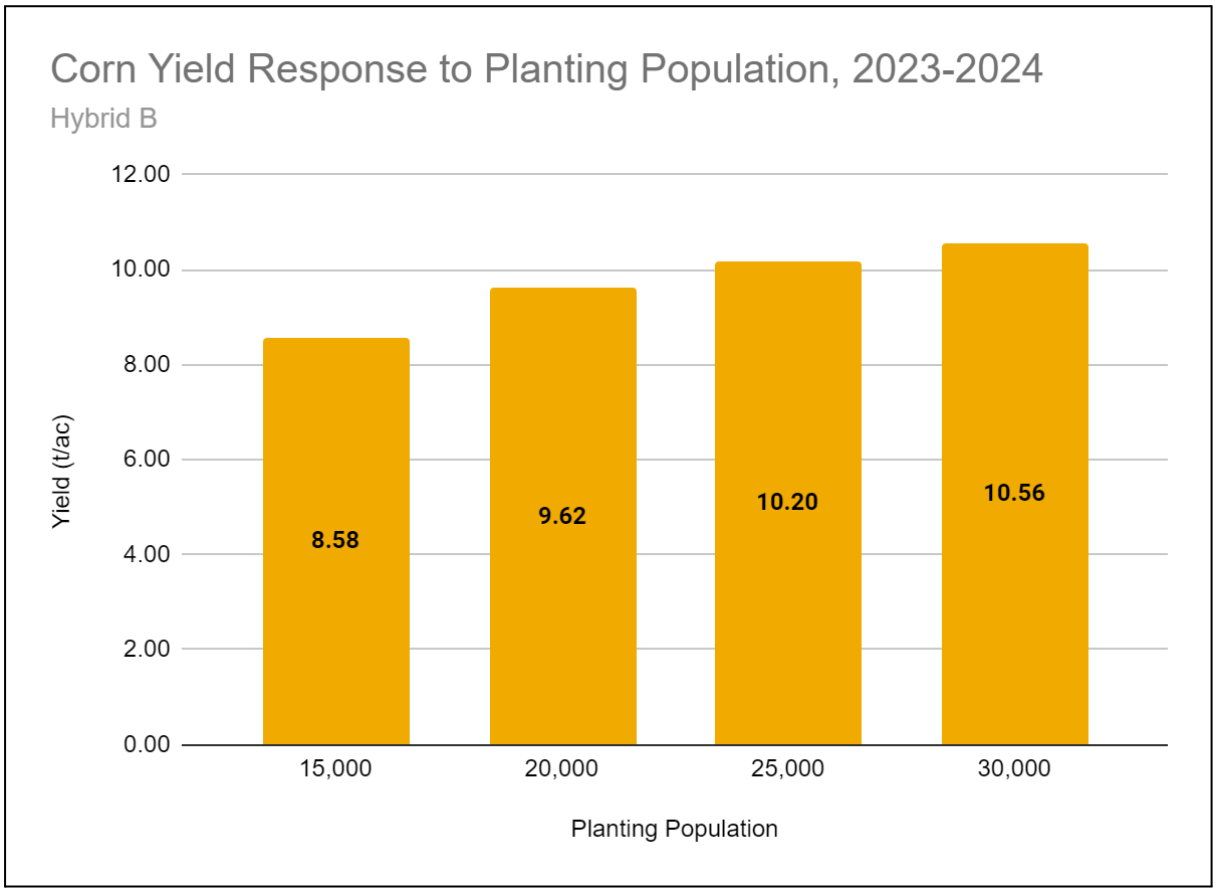
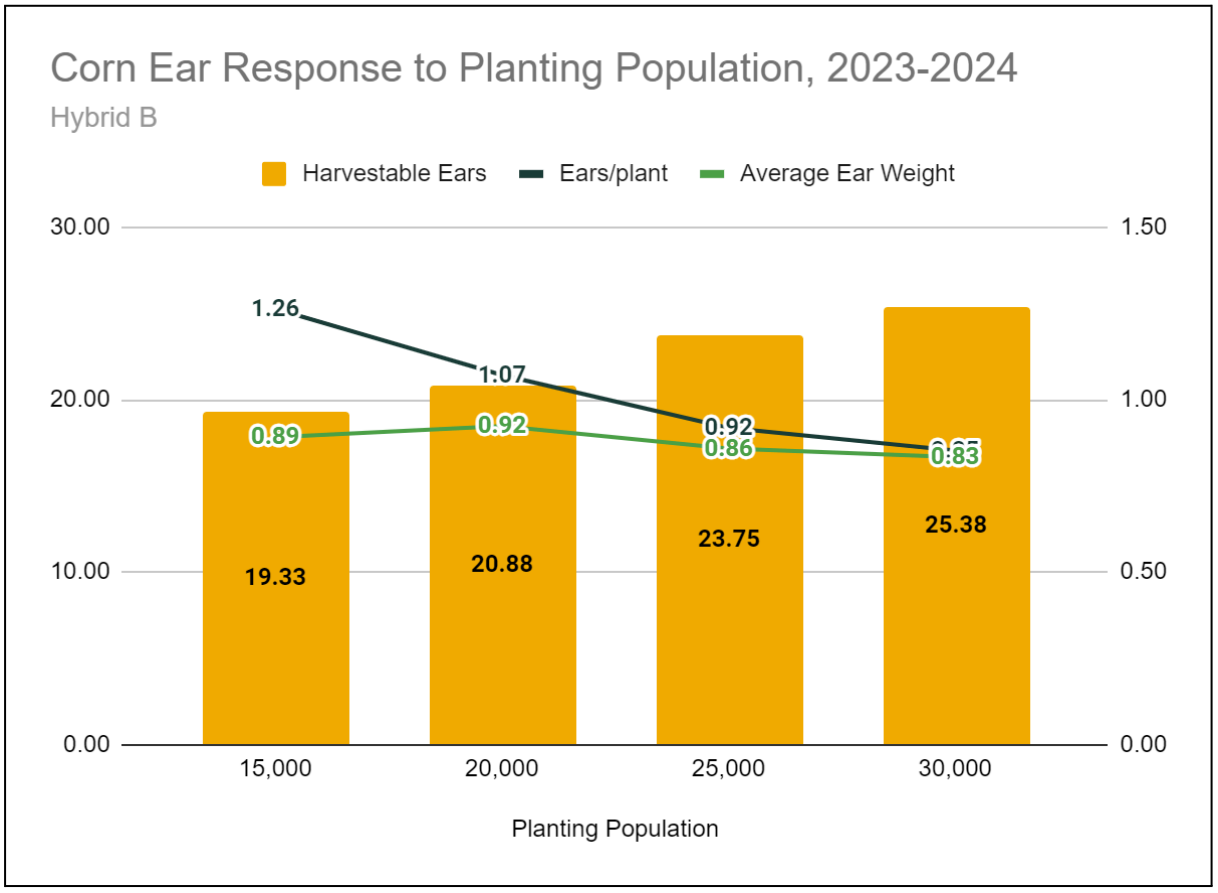
Hybrid B





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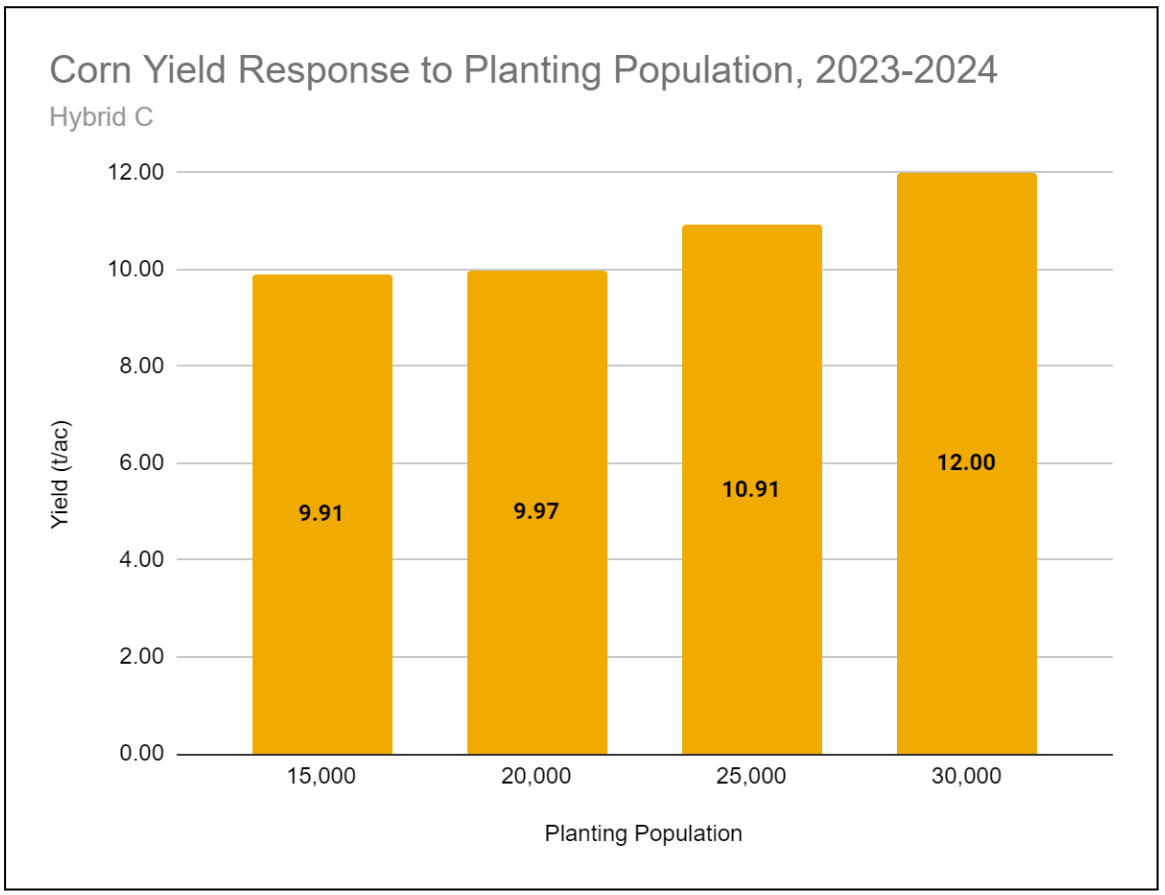
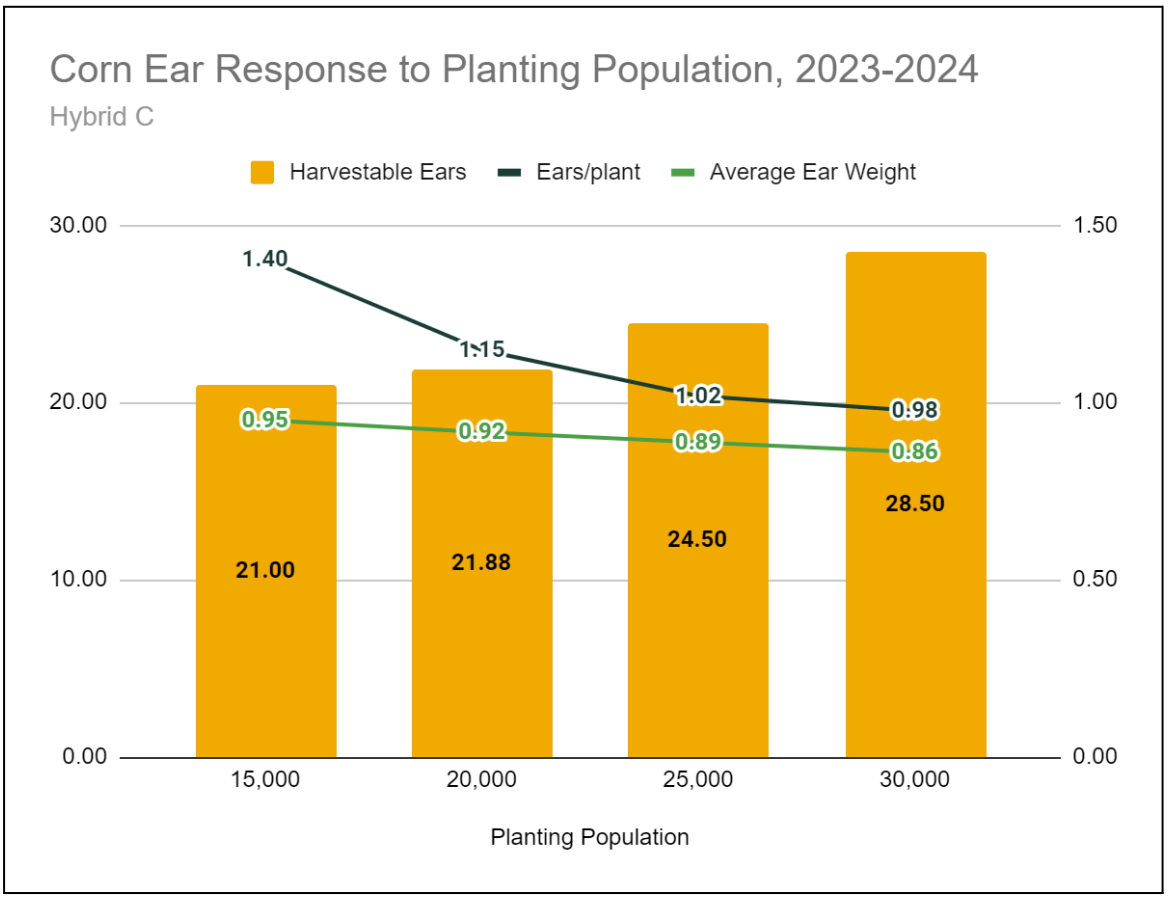
Hybrid C





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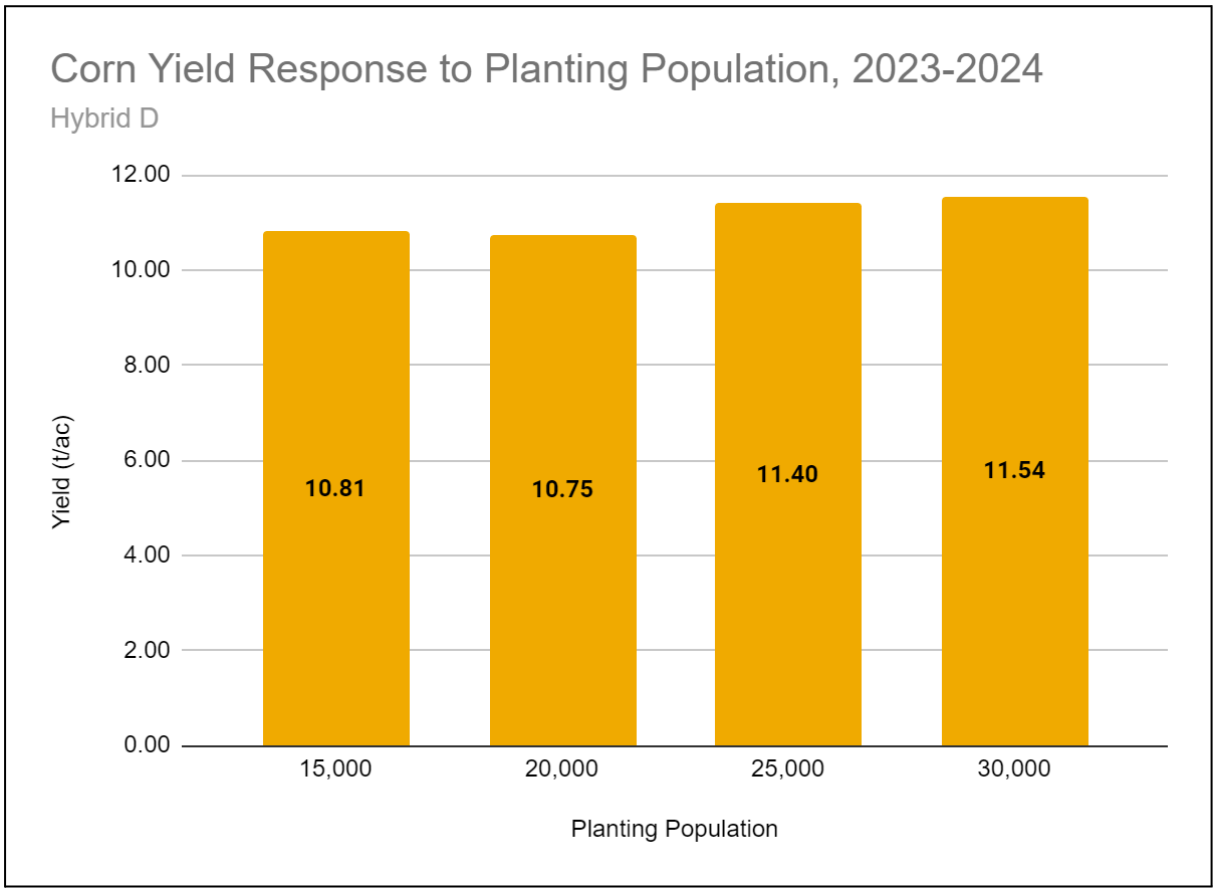
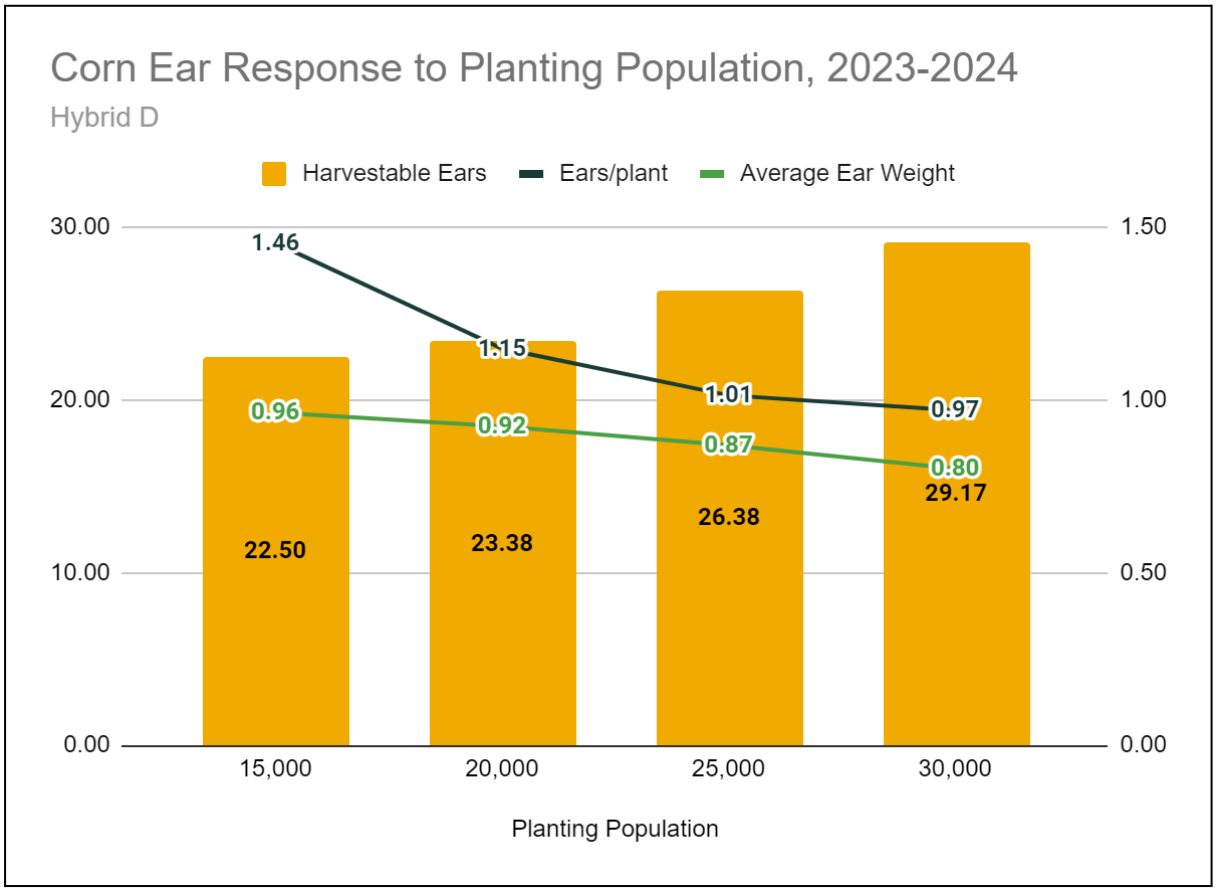
Hybrid D





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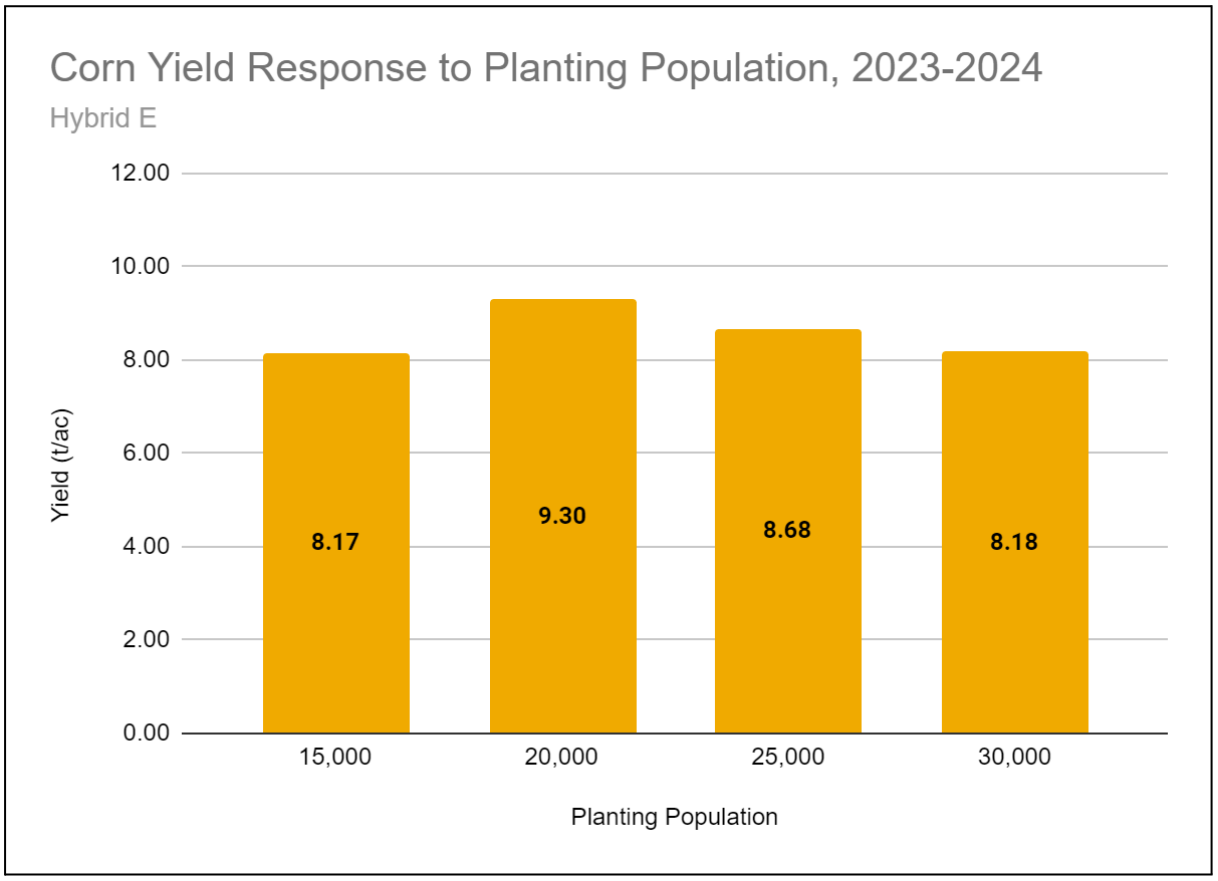
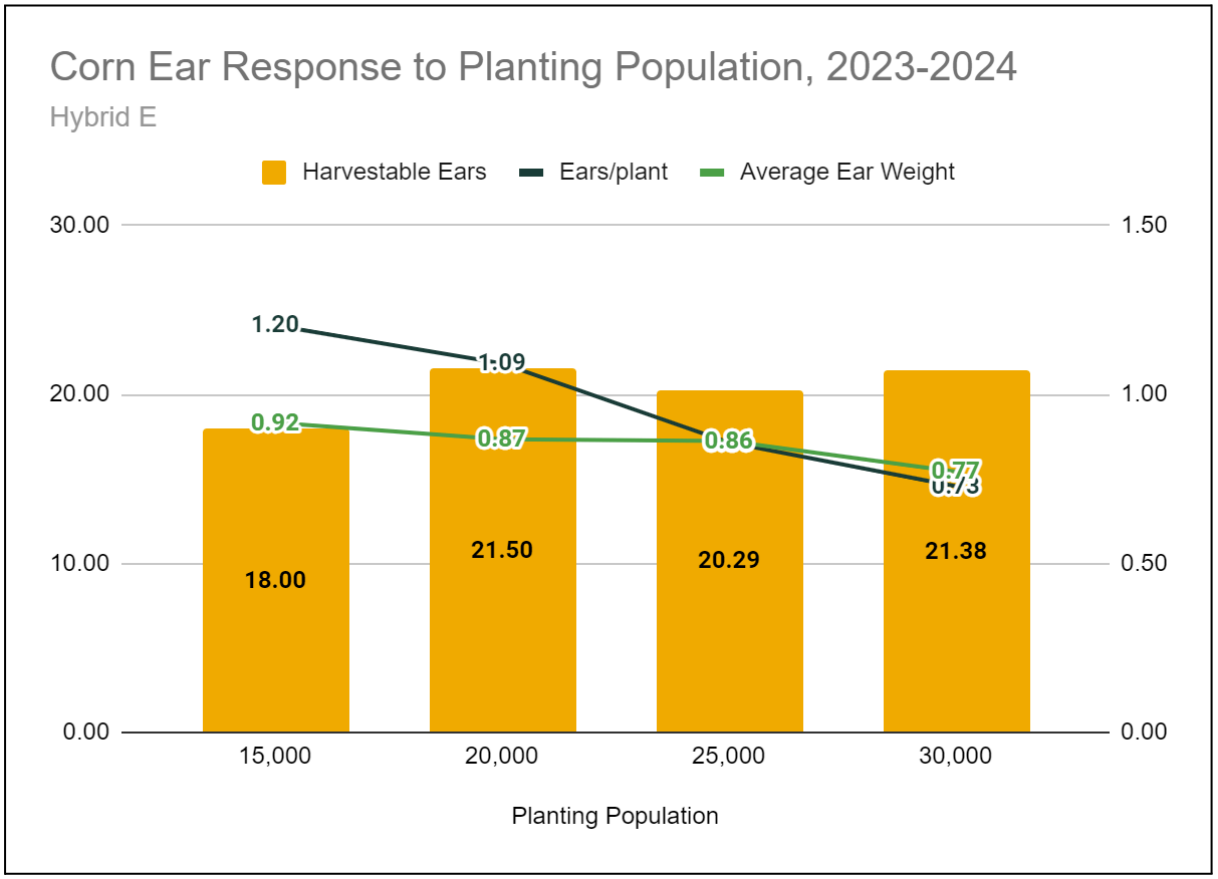
Hybrid E





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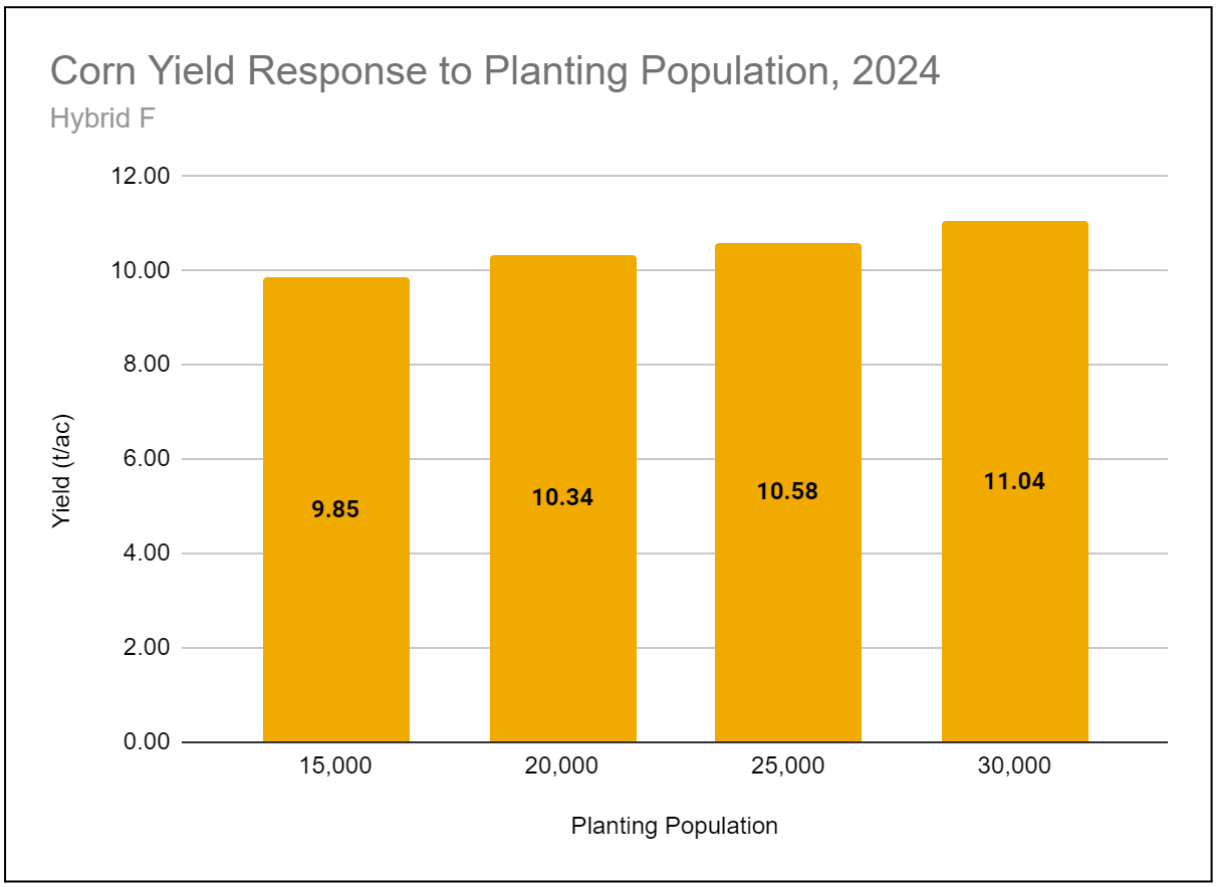
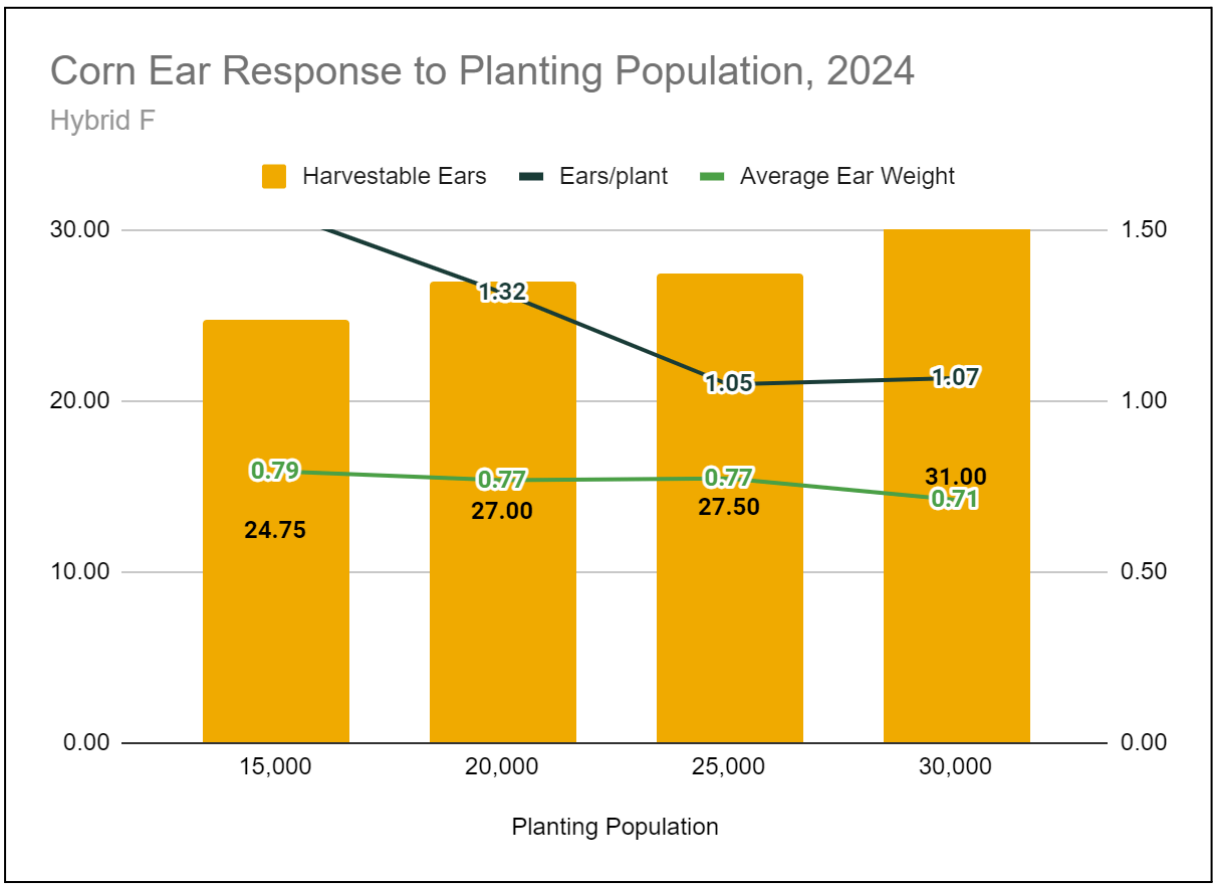
Hybrid F





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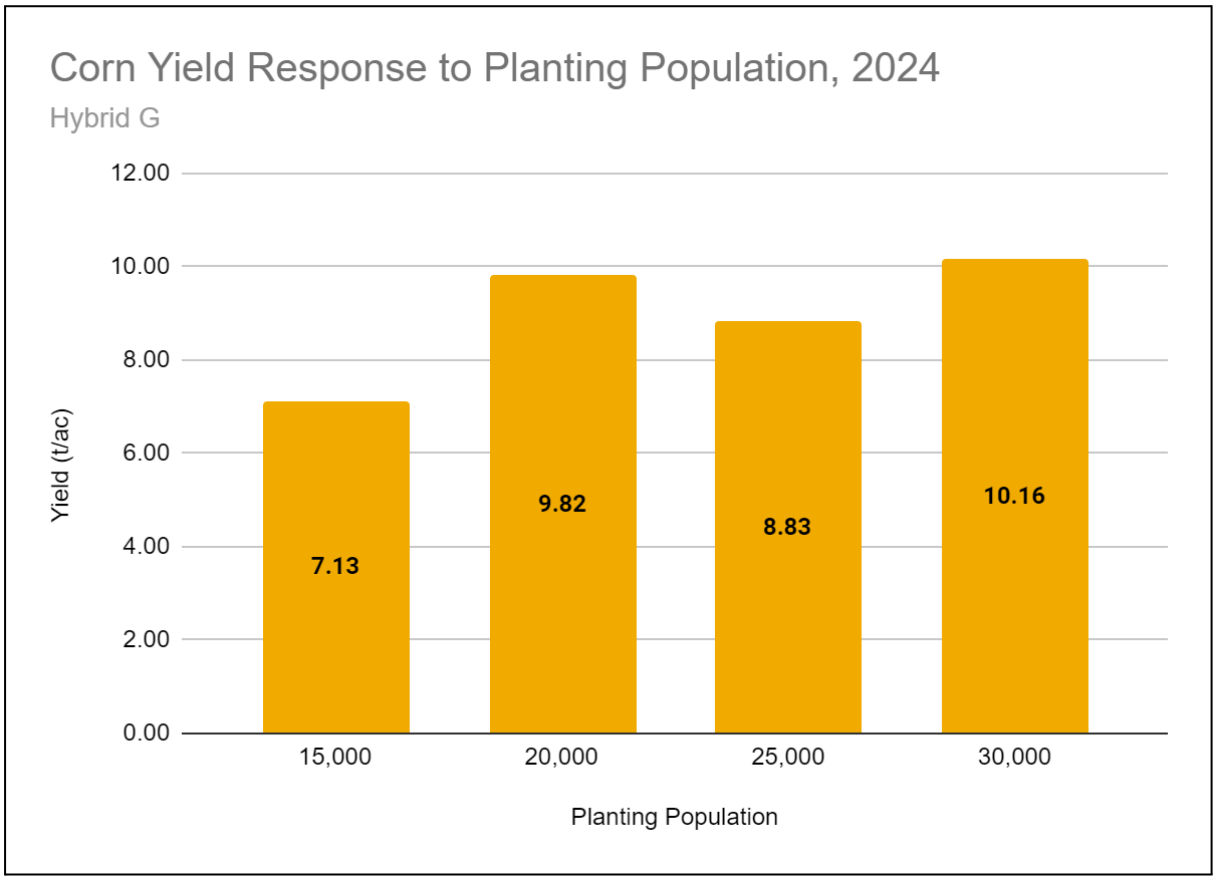
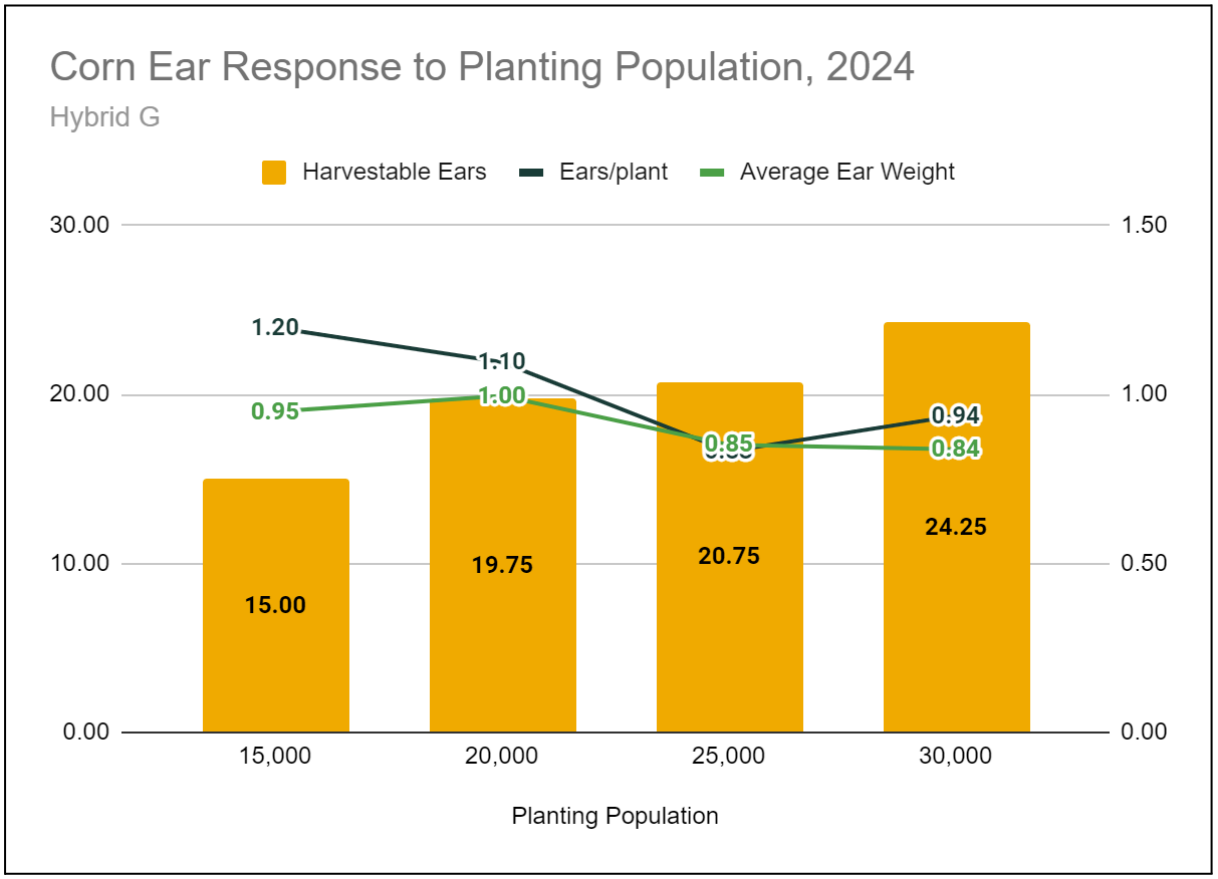
Hybrid G





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Hybrid H