

Spring Malting Barley

2015 SEEDING RATE TRIAL

Six seeding rates were used, based upon studies conducted by other northern research centers. (Table 1.) Adequate rainfall and favorable temperatures were realized throughout the duration of the trial.

Table 1. Seeding rates expressed in pounds/acre, seeds/acre and seeds/ft²

Treatment	lbs./acre	seeds/acre	seeds/ft ²
1	62	609,840	14
2	80	784,080	18
3	102	1,001,880	23
4	124	1,219,680	28
5	142	1,393,920	32
6	164	1,611,720	37



Figure 1. Plant counts before tillering were taken by placing a 1' x 1' quadrat upon the plot, and counting the number of plants within the sample area. Two plant counts were taken at each plot, and the measurements were averaged across each treatment.

The trial was harvested on August 31, 2015 with a Hege 125b plot combine. Samples were collected and cleaned through a Clipper Eclipse fanning mill. Grain moisture and test weight were analyzed on a Dickey-John GAC 2500. Replicate samples were composited across each treatment, and sent to North Dakota State University for grain quality analysis. Yield was adjusted to 14.5% moisture. Results are displayed in tables 2-4. No statistical significance was detected in terms of grain quality, but significant difference in yields was realized across treatments.

Table 2. Yields of various seeding rate treatments

Treatment	lbs./acre	bushels/acre	LSD @ 0.05
1	62	31.4	C
2	80	31.6	C
3	102	40.2	AB
4	124	35.2	BC
5	142	42.0	A
6	164	37.3	ABC

RESEARCH AT A GLANCE

PURPOSE:

Evaluate the effect of different seeding rates on yield and grain quality factors.

TRIAL LOCATION:

Upper Peninsula Research and Extension Center, Chatham, MI

Soil type – well-drained Eben Very Cobbly Sandy Loam

EXPERIMENTAL DESIGN:

Randomized complete block design, four replications

TRIAL ESTABLISHMENT:

- Pinnacle, 2-row malting barley variety from North Dakota
- Planted May 14, 2015
- Plot size 3' wide by 20' long
- Borders and alleys trimmed to minimize edge effect
- 60 lbs. N fertilizer top-dressed after planting (urea 46-0-0)
- Huskie applied for weed control (13.5 oz./acre)
- Prosaro applied to control Fusarium head blight (8.2 oz./acre + 4 oz. surfactant/100 gal. water)

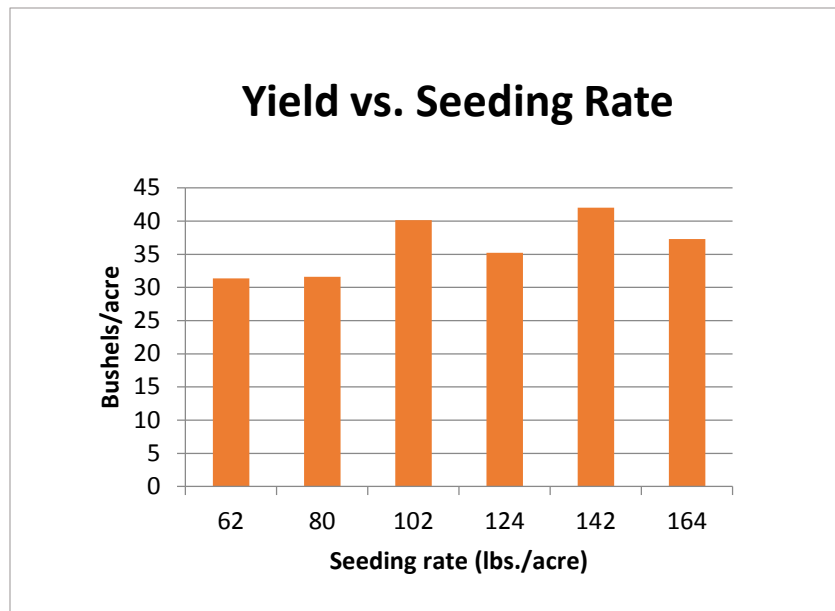
Table 3. Grain protein and percent plump quality data for various seeding rates

Treatment	lbs./acre	% Protein	% Plump
1	62	12.2	86.5
2	80	12.3	83.7
3	102	12.1	88.5
4	124	12.1	84.5
5	142	12.1	86.0
6	164	12.3	85.0

Table 4. Seeds/ft² compared to plants/ft²

Treatment	seeds/ft ²	plants/ft ²
1	14	11
2	18	17
3	23	21
4	28	22
5	32	28
6	37	28

Figure 2. Yields of various seeding rate treatments



CONCLUSIONS

Based on the 2015 findings, the previous seeding rate recommendation of 96 lbs./acre, will not be changed, but the study will be repeated in 2016. If the data once again supports a higher seeding rate, recommendations will be revised if potential yield increases support the increased investment at planting.

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Michigan State University
Malting Barley
Research Program
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Research and resources
can be found at:

[msue.anr.msu.edu/topic/
info/malting_barley](http://msue.anr.msu.edu/topic/info/malting_barley)