# **Agronomic Factors That Affect Hulless Barley Yield and Quality. (C03-clayton180354-Oral)**

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## Abstract:

Seeding depth and seeding rate are cornerstone practices that can be varied to optimize the production of direct seeded malt and feed barley (Hordeum vulgare L.). A field experiment was conducted at Lacombe, Beaverlodge, and Fort Vermilion, AB, and Melfort, SK, to evaluate the effect of two seeding depths (3.8 cm and 6.4 cm) and four seeding rates (100, 200, 300, and 400 seeds / m2) on grain yield and quality of a malt cultivar (Harrington, hulled) and two feed cultivars (Falcon, hulless; and Kasota, hulled). Seedling density increased by 28% when all barley cultivars were seeded at a depth of 3.8 cm compared with 6.4 cm. The seeding rate necessary to produce maximum grain yields (ca. 4500 kg ha-1 for all treatment combinations) was near to 330 seeds / m2 (both seeding depths) for the feed barley cultivars, or 150 (3.8 cm) and 250 (6.4 cm) seeds / m2 for Harrington. However, seed quality declined progressively with each unit increased of seeding rate. Barley matured 1.5 days earlier with each 100 seeds /m 2 increase of seeding rate. Seeding rates of 300-400 seeds / m2 may provide greater feed barley yields, but could cause growing conditions less conducive for malt production.

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