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[home](#) [page](#) [about us](#) [contact](#)



us

Table of Contents

IN PRESS

RAE 2013

RAE 2012

RAE 2011

RAE 2010

RAE 2009

RAE 2008

RAE 2007

RAE 2006

RAE 2005

RAE 2004

RAE 2003

RAE Home

Editorial

Board

For Authors

- **Authors Declaration**
- **Instruction to Authors**
- **Guide for Authors**
- **Copyright Statement**
- **Submission**

For Reviewers

- **Guide for Reviewers**
- **Reviewers Login**

Subscription

Res. Agr. Eng.

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placing in seeding of sugar beet

Res. Agr. Eng., 51 (2005): 33-38

Evaluation of the quality of the sugar beet seeding in field condition is considered. Field experiments were conducted with the set of single seed drills (precision drills) in accordance with the international standard ISO 7256/1. The variability of plant spacing in the row and seeding depth were evaluated. The attention has been paid also to the soil condition and to properties of seeding material, which has been used. For the measuring of seeding depth the inductive and ultrasound sensor were used. According to the results obtained significant differences were observed among the precision drills, which were involved in field experiments. The variability of emerged plants was evaluated by standard deviation (δ) and best results were reached with precision drill Monopill S ($\delta = 17.8$ mm) and the worst results precision drill Magicsem 4000 ($\delta = 44.0$

mm). In general, precision drills with internal filling of gathering openings (Monopill S, Meca 2000 and others) allowed to obtain higher work quality when machine was moved at optimal forward speed and not at minimal forward speed. As far as seeding depth variability concerns, all tested precision drills caused the decreasing of the seeding depth by 10– 15%, when increased forward speed was used. For all tested precision drills the lowest seeding depth variability was observed at the forward speed of 1.65– 1.73 m/s (standard deviation $\delta = 5.08– 7.69$ mm).

Keywords:

sugar beet; seeding; precision drills; plant spacing; seeding depth

[[fulltext](#)]

