

[Available Issues](#) | [Japanese](#)>> [Publisher Site](#)Author: [ADVANCED](#)

Volume Page

Keyword: [TOP](#) > [Available Issues](#) > [Table of Contents](#) > [Abstract](#)

ONLINE ISSN : 1349-1008

PRINT ISSN : 1343-943X

Plant Production Science

Vol. 9 (2006) , No. 4 395-400

[\[PDF \(458K\)\]](#) [\[References\]](#)**Varietal Differences of Flood Tolerance during Germination and Selection of the Tolerant Lines in Common Buckwheat**[Kiyoka Sakata](#)¹⁾ and [Ryo Ohsawa](#)¹⁾

1) Graduate School of Life and Environmental Sciences, University of Tsukuba

(Received: November 7, 2005)

Abstract: We evaluated the varietal difference in the flood tolerance of germinated seed in 17 Japanese varieties of common buckwheat (*Fagopyrum esculentum* Moench), including both local varieties and bred varieties or lines of different agroecotypes. Germinated seeds were flooded for 1 day in a growth chamber in June, July and August. The mean rate of seedling emergence from the seeds sown on different dates varied with the variety ranging from 20.4 to 57.4%. The mean emergence rate of summer agroecotypes (29.9%) was significantly lower than that of intermediate and late-summer agroecotypes (42.8 and 40.1%, respectively), and that of local varieties (44.2%) was significantly higher than that of bred varieties or lines (31.2%). These results suggest that inherent variation in flood tolerance was decreased by breeding as a result of a bottleneck effect. The local variety 'Kitou zairai' which exhibited a high and stable seedling emergence rate, may be a suitable choice in breeding for flood tolerance during germination. We also attempted to select for flood tolerance under mild selection pressure. Mass selection after four generations increased seedling emergence rate in five of six selected lines (with the exception of 'Kitawasesoba' compared with those of unselected populations, although the results varied with the line. These results indicate the possibility of breeding for flood tolerance during the germination period.

Keywords: [Agroecotype](#), [Common buckwheat](#), [Flood tolerance](#), [Mild selection](#), [Seed germination](#), [Selection](#), [Varietal difference](#)

[\[PDF \(458K\)\]](#) [\[References\]](#)

To cite this article:

Kiyoka Sakata and Ryo Ohsawa: "Varietal Differences of Flood Tolerance during Germination and Selection of the Tolerant Lines in Common Buckwheat". Plant Production Science, Vol. **9**, pp.395-400 (2006) .

doi:10.1626/pps.9.395

JOI JST.JSTAGE/pps/9.395

Copyright (c) 2006 by The Crop Science Society of Japan



[Japan Science and Technology Information Aggregator, Electronic](#)

