Journal@rchive

Search Article GO ADVANCED HELP Japanese English

HOME

About Journal@rchive

Journal List

Journal/ Society Search

GO

News

J-STAGE

Science Links Japan

Japan Science and Technology Agency

Japanese journal of crop science

The Crop Science Society of Japan Info Link

ONLINE ISSN: 1349-0990
PRINT ISSN: 0011-1848

Japanese journal of crop science
Vol.64 , No.4(1995)pp.703-708

[Full-text PDF (737K)] [References]

Analysis of Factors Concerning Bleeding Rate from the Basal Part of Stem in Rice Plants

Takeshi YAMAGUCHI, Yukindo TSUNO, Junichi NAKANO and Reiko MANO
1) Faculty of Agriculture, Tottori University
2) Faculty of Agriculture, Tottori University
3) Faculty of Agriculture, Tottori University
4) Faculty of Agriculture, Tottori University

[Published: 1995/12/05]
[Released: 2008/02/14]

Abstract:

The measurement of bleeding from the basal part of the stem had been applied to estimation for root activity of rice. However, the bleeding rate (BL) showed wide variation among test plants. We investigated the relationship between various factors on BL variation and the relationship between BL and root respiration under conditions of paddy fields during the period from young panicle formation to ripening stage in rice. BL, which was got from the stump of stem at 12cm from the soil surface, was strongly decreased due to transpiration of leaves of other stems in the measured hill. Therefore, all of the stems in a hill were cut for the measurement of BL. There was a positive correlation between BL per stem and cross sectional area (AS) on basal stem, and large stem had a high value of BL per AS. The relationship between BL and soil temperature within the range 7 to 29°C could be expressed with an exponential curve of temperature quotient (Q_{10}) of 2.2, nearly the same value of root respiration. After the booting stage, the relationship between root respiration and BL per stem showed a highly positive correlation. Measurement of BL could be recommended as a useful method for estimation of root activity, especially at the ripening period.

Keywords:

Bleeding, Rice, Root respiration, Temperature quotient

[Full-text PDF (737K)] [References]

Copyright© Crop Science Society of Japan

Access Policy Privacy Policy Link Policy Contact Amendment Policy