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## Japanese journal of crop science

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ONLINE ISSN: 1349-0990

PRINT ISSN: 0011-1848

### Japanese journal of crop science

Vol.65 , No.2(1996)pp.198-206

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#### Cultivar Difference in Efficiency of Solar Energy Utilization in Two-rowed Barley of Warm Regions in Japan

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[Published: 1996/06/05]

[Released: 2008/02/14]

#### Abstract:

Cultivar differences of efficiency of solar energy utilization (Eu) and efficiency of solar energy utilization in grain (Eu grain) in two-rowed barley (34 cultivars) were investigated from 1987 to 1988. The relationship between accumulated solar radiation and top dry weight at the vegetative stage from the sowing date to full heading stage was proportional ( $r=0.875^{***}$ ). Eu in Japanese cultivars was less than 1.0%, but Eu of Koru, Bomi, Kym and Menuet in foreign cultivars was higher than 1.0%. Eu of Kawa Saigoku, Kanto Nijo 19 and WI-2585 at the ripening stage were 1.303%, 1.328% and 1.340%, respectively, but other Japanese cultivars were 0.8~1.2%. Eu of Keg, Koru, Bomi and Kanto Nijo 19 at maturity was higher than 1.1%. Eu grain in Miho Golden, Kawamizuki, Ishukushirazu, Nishinochikara, Saikai Kawa 43, Hakei 86-107, Hakei 87-39, WI-2727, Bomi, Kym, Ida and Flare was higher than 0.40%.

#### Keywords:

Accumulated solar radiation, Dry matter production, Efficiency of solar energy utilization, Grain production, Two-rowed barley

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