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Photo-temperature response of ramie (Boehmeria nivea (L.) Gaud.) male sterile lines

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ABSTRACT

Six male sterile lines (MSLs) of ramie (Boeh-meria nivea (L.) Gaud.) were grown in dark rooms under the photoperiods of 9.5h, 11h or 12.5h d-1 in spring and summer seasons (dif-ferent environmental temperatures) to test their developmental response to photoperiod and temperature. The MSLs showed little difference in vegetative growth duration, but different de-velopment rates in the reproductive growth stage under the tested conditions. Higher tem-perature (grown in summer) mainly accelerated vegetative growth, while the short photoperiod treatment accelerated the reproductive growth of the MSLs. Moreover, the short photoperiod treatment combined with higher temperature obviously accelerated both the vegetative and reproductive growth of the MSLs. But the effect of higher temperature decreased, or even dis-appeared along with the photoperiod elongation. The MSLs were divided into 5 photo-temperature response types, based on the flower budding acceleration of short pho-toperiod and the approximate temperature re-sponse index.

KEYWORDS

Flower Budding Acceleration; Photoperiod Sensitivity; Ramie (Boehmeria Nivea (L.) Gaud.); Temperature Response Index

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