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Changes in Pungent Components of Two *Wasabia japonica* MATSUM. Cultivars during the Cultivation Period

[Masakazu HARA](#)¹⁾, [Keiichi MOCHIZUKI](#)²⁾, [Shinichiro KANEKO](#)²⁾, [Toshio IYAMA](#)³⁾, [Takehiro INA](#)³⁾, [Hideo ETOH](#)¹⁾ and [Toru KUBOI](#)¹⁾

1) Faculty of Agriculture, Shizuoka University

2) Tamaru-ya Honten Co., LTD.

3) Shizuoka Agricultural Experiment Station

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Japanese horseradish, i.e. wasabi (*Wasabia japonica* MATSUM.), cultivars are classified as green-stem and red-stem types. It is believed that pungency differs slightly between the types. We analyzed isothiocyanate levels and myrosinase activity in two wasabi cultivars, Maruichi and Mazuma, a green-stem and a red-stem type, respectively. Time-course experiments were performed monthly from May 2001 to October 2002, separating plants into leaves, petioles, and rhizomes. Allyl isothiocyanate production induced by maceration occurred in whole plants in both cultivars, though the major organ producing the isothiocyanate was the rhizome. Levels of myrosinase activity in the rhizome of Maruichi increased in November and December 2001, when allyl isothiocyanate production also increased in Maruichi's rhizome. Although levels of allyl isothiocyanate did not differ between the two cultivars, Mazuma produced isopropyl isothiocyanate but Maruichi produced little. These results suggest that the difference in pungency between Maruichi and Mazuma may be derived from the isothiocyanate component.

Keywords: [isothiocyanate](#), [myrosinase](#), [pungency](#), [wasabi](#), [Wasabia japonica MATSUM.](#)



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