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Variation in Seed Shape and Husk Color in Japanese Native Cultivars of Common Buckwheat (*Fagopyrum esculentum* Moench)

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Abstract: The variation in seed shape and husk color was investigated in 56 Japanese native cultivars of common buckwheat. Analysis of variance revealed highly significant differences among the cultivars in seed shape characteristics and husk colors. The 1000-seed weight (1000-SW) ranged widely, from 20.4 to 39.0 g, among the cultivars. The cultivars collected from the Kanto region of the mainland had a large length and width of seed and heavy 1000-SW. On the other hand, the cultivars from the Chugoku and Shikoku regions of Japan had a small length and width of seed. The length and width of seeds showed a high positive correlation. The cultivars with a high 1000-SW showed a slight difference between length and width of seed and were typically the triangular type in seed shape. The length/width ratio (L/W) depended on the width rather than the length of seed, though both were negatively correlated with the L/W. Highly positive correlations were found among the L*, a* and b* husk color value. The L* showed a highly positive correlation with growth duration, and the husk color of the cultivars became more deep black as growth duration decreased. The husk color of the cultivars from the Kyushu region (long growth duration) was grayish brown, but that of the cultivars from Nagano Pref. (the shortest growth duration) was characterized as typically deep black. The cultivars collected at lower latitude regions tended to have a lighter color of husk than those from higher latitude regions. The cultivars from the Tohoku region showed a smaller variation for seed size characteristics and 1000-SW, and the cultivars from the Kyushu region showed a smaller variation for husk color.

Keywords: [Buckwheat](#), [Fagopyrum esculentum](#), [Genetic resources](#), [Husk color](#), [Seed](#)

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