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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.1(1996)pp.44-50

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#### Analysis of Gravity-induced Growth Response of Shoot in Rice (*Oryza sativa* L.) : Response of leaf pulvinus, lamina joint and torsion of leaf sheath

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[Published: 1996/03/05]

[Released: 2008/02/14]

#### Abstract:

Plants were grown in pots containing soil. Every tiller was cut off when it emerged and only the main shoots were allowed to grow. Exp. 1. Plants in pots were artificially placed horizontally and the bending degree of lamina joints and pulvini was investigated. The artificial placement in the horizontal direction increased the bending degree of lamina joint and pulvini. In the treatment in which pots were placed horizontally and then turned upright, the bending degree of pulvini was decreased, but that of lamina joint was not changed. Exp. 2. The response direction of the torsion in the leaf sheath of rice placed horizontally was downward at a portion from the top to the center, while it was upward from the center to the bottom. Exp.3. The leaf blade was partly removed or added weight. The result suggested that the leaf blade weight influenced the degree of torsion. When the weight of the leaf blade which was set sideways was released, the degree of torsion decreased. Exp.4. In the temperature treatment, the low temperature decreased the torsion of the leaf sheath. This result suggested that the torsion of leaf sheath physiologically influenced by the temperature. It seems that the unit of "pulvinus=leaf sheath=lamina joint" was a response to gravity.

#### Keywords:

Gravity response, Lamina joint, Leaf pulvinus, Leaf sheath, *Oryza sativa* L., Rice, Torsion[\[ Full-text PDF \(787K\) \]](#) [\[ References \]](#)

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