



HORTICULTURAL RESEARCH (JAPAN)
JAPANESE SOCIETY FOR HORTICULTURAL SCIENCE

[Available Issues](#) | [Japanese](#) >> [Publisher Site](#)

Author: [ADVANCED](#) | Volume Page

Keyword: |



[TOP](#) > [Available Issues](#) > [Table of Contents](#) > Abstract

ONLINE ISSN : 1880-3571

PRINT ISSN : 1347-2658

Horticultural Research (Japan)

Vol. 9 (2010) , No. 3 333-338

[\[PDF \(508K\)\]](#) [\[References\]](#)

Effects of the Diurnal Change of Solar Radiation and the Temperature on the Change of Ascorbic Acid Content of Spinach

[Yuko Yoshida](#)¹⁾ and [Hiroshi Hamamoto](#)¹⁾

1) National Agricultural Research Center for Western Region

(Received March 4, 2009)

(Accepted December 9, 2009)

Ascorbic acid content is an important factor in spinach (*Spinacia oleracea* L.) quality. In this study, we investigated the effects of the amount of solar radiation and temperature on the ascorbic acid content of spinach. Experiments were carried out under rain shelters on four sowing dates. Spinach plants were harvested when they reached marketable size, and ascorbic acid contents were measured. The ascorbic acid content of spinach on a fresh-weight basis increased or decreased within each day and also changed with similar tendency to the integrated amount of solar radiation on the day before harvesting. This result suggests that the ascorbic acid content on a fresh-weight basis is strongly affected by the total amount of solar radiation received by the plants one day before harvesting. Diurnal changes in the ascorbic acid content on a fresh-weight basis were largely affected by the ascorbic acid content on a dry-weight basis and partly affected by the water content of the plants.

Key Words: [light intensity](#), [vitamin C](#), [weather](#)

[\[PDF \(508K\)\]](#) [\[References\]](#)

Download Meta of Article [\[Help\]](#)

[RIS](#)

[BibTeX](#)

doi:10.2503/hrj.9.333

JOI JST.JSTAGE/hrj/9.333

Copyright (c) 2010 by Japanese Society for Horticultural Science



[Japan Science and Technology Information Aggregator, Electronic](#)

