

HOME

About Journal@rchive

Journal List

Journal/  
Society Search

GO

News



Science Links Japan

JST Japan Science and Technology Agency

## Japanese journal of crop science

The Crop Science Society of Japan [Info](#) [Link](#)[TOP](#) > [Journal List](#) > [Available Issues](#) > [Table of Contents](#) > [Abstract](#)

ONLINE ISSN: 1349-0990

PRINT ISSN: 0011-1848

### Japanese journal of crop science

Vol.67 , No.2(1998)pp.193-199

[\[ Full-text PDF \(1013K\) \]](#) [\[ References \]](#)

#### Evaluation of Amount of Nitrogen Fixed in *Crotalaria* spp.and Nitrogen Turnover to the Succeeding Wheat

Hideki OHDAN and Hiroyuki DAIMON

1) College of Agr., Osaka Prefecture Univ., : TSPS Research Fellow

2) College of Agr., Osaka Prefecture Univ.,

[Published: 1998/06/05]

[Released: 2008/02/14]

#### Abstract:

The amounts of nitrogen fixed in *Crotalaria juncea* and *C.pallida* were evaluated by the  $^{15}\text{N}$ -isotope dilution technique and the difference method using *Zea mays* in pot experiments. The effects of incorporation on N uptake of the succeeding wheat in both the *Crotalaria* species were also determined. In *C.juncea*, there was no significant difference in dry weight and N content between N application(0.3gN/pot)and no N application at 40 days after sowing (DAS). However, significantly higher dry weight and N content with N application were observed at 100 DAS. There was no significant difference between N application and no application at 100 DAS in *C.pallida*. In both species, approximately 90% of the total N content was derived from fixed-N at 100 DAS. The amounts of N absorbed by the succeeding wheat grown after incorporating the tops of *Crotalaria* were higher in the incorporation of *C.pallida* than *C.juncea* under no N application conditions. With 1.5gN/pot, no significant difference in N content was observed between each species. The residual effect of the underground parts of *Crotalaria* was found regarding N contribution to the succeeding wheat. A significantly higher N content of the wheat grown in *C.juncea* pots was observed compared to *C.pallida* pots. These results indicate that there are definite differences in properties of green manure between the two tested species of *Crotalaria*.

#### Keywords:

*Crotalaria juncea*, *Crotalaria pallida*, Green manure, Incorporation,  $^{15}\text{N}$ -dilution technique, Nitrogen fixation, Reference crop, Wheat.

[\[ Full-text PDF \(1013K\) \]](#) [\[ References \]](#)

Copyright© Crop Science Society of Japan

