

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.64 , No.4(1995)pp.754-759

[\[ Full-text PDF \(665K\) \]](#) [\[ References \]](#)

#### Accumulation and Partitioning of Nitrogen During Seed Filling in Old and Modern Soybean Cultivars in Relation to Seed Production

Tatsuhiko SHIRAIWA and Ushio HASHIKAWA

1) Shiga Prefectural Junior College

2) Shiga Prefectural Junior College

[Published: 1995/12/05]

[Released: 2008/02/14]

#### Abstract:

Seed productivity of old and modern soybean cultivars was analyzed in relation to accumulation and partitioning of nitrogen during seed filling. Four soybean cultivars were grown on a drained paddy field (silty caly loam). Dry weight and nitrogen content were determined for above ground parts weekly from the beginning of seed filling to maturity. The modern cultivars Enrei and Tachinagaha exhibited greater dry matter and nitrogen accumulations during seed filling and greater seed yield in comparison with the old cultivars Akazaya and Mizukuguri. Seed nitrogen per top nitrogen ( $N_{\text{seed}}/N_{\text{top}}$ ) increased linearly against days after the beginning of seed filling, while leaf nitrogen per top nitrogen ( $N_{\text{leaf}}/N_{\text{top}}$ ) decreased linearly. Cultivar differences in nitrogen partitioning were quite small. Thus  $N_{\text{leaf}}$  was mainly dependent on  $N_{\text{top}}$ . Nitrogen harvest index ( $N_{\text{seed}}/N_{\text{top}}$  at maturity) was not very restrictive to either nitrogen yield or seed yield. It is concluded that the observed difference in seed productivity among old and modern cultivars was associated more with nitrogen accumulation during seed filling than with its partitioning pattern.

#### Keywords:

Cultivar difference, Dry matter production, Nitrogen accumulation, Nitrogen partitioning, Seed yield, Soybean

[\[ Full-text PDF \(665K\) \]](#) [\[ References \]](#)

Copyright© Crop Science Society of Japan