

**PA-6**

## **Double Cropping System Using Summer Eco-Type Buckwheat and Soybean for Soy-Sprout in the Jeju Region of Korean Peninsula**

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### **[Introduction]**

The buckwheat cultivation area in Jeju region is 728 ha (2020), accounting for 45.5% of Korea. The buckwheat called a pseudo-cereal is a short-season crop. Recently, there has been a problem of decreasing yield and income due to weather disasters during autumn buckwheat cultivation. With the introduction of summer eco-type buckwheat varieties that can be cultivated in spring, research on crop and income improvement to replace buckwheat autumn cultivation was required. Thus, This study was carried out to suggest the effect of stabilizing production and increasing income-according to spring cultivation of buckwheat and a double cropping system using soybeans.

### **[Materials and Methods]**

A field experiment was conducted in buckwheat field, located in Jeju region Andeok-meon, Seogwipo-si, Jeju, during the 2021 cultivated season. Buckwheat seeds of the cultivar “Yangjeol” was scattered to be sown (6kg/10a) on April 22. After buckwheat harvest(June 22), ‘Aram’ soybean were sown in the same field with 5kg/10a on July 8, and harvested on October 24. As a control, autumn buckwheat was harvested on November 2 by rowing 6kg/10a on September 3. Cultivation management was in accordance with the Rural Development Administration standard cultivation method. The buckwheat-soybean crop system and the growth characteristics, yield, and income of autumn buckwheat were compared and analyzed.

### **[Results and Discussion]**

The yield of buckwheat sown in spring was 176.2kg/10a, and the yield of buckwheat sown in autumn was 139.3kg/10a, which was 27% higher when sown in spring. And, the soybean crop was 214.kg/10a. As a result of income analysis by crop unit price (buckwheat 4,225 won/kg, soybean 6,815 won/kg), it was 1,363,000 won/10a in the case of double-cropping of buckwheat, and 2,234 thousand won/10a in the case of buckwheat-soybean crop. Therefore, it was investigated that the crude income increased by 63% if the cultivation of buckwheat was changed to spring sowing buckwheat and-soybean. However, the slack period between the harvest of spring buckwheat and sowing of kidney soybeans was judged to be less than 2 weeks, and it is thought that early varieties of both buckwheat and soybean will be selected to secure slack and sufficient number of growing days.

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