

SEAG-Symposium, October 14-18, 2002, Vietnam

“The role of dialogue and networking:
From a transitional to an industrialized country”

The Prospect of Growing Soba (Buckwheat) as Flour Producing Plant in Indonesia from Agro-meteorological Point of View

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Abstract

Soba plants (buckwheat) are relatively new in Indonesia, because originally it admitted as subtropical crops. Soba as flour producing plants enjoy the nutritional and health benefit food and it can be used in variety of food such as noodles and pancake. Air temperature and solar radiation are important agro-meteorological factors that correlated to varieties, sowing dates and planting areas. Preliminary experiment indicated that soba plants can be planted also in tropical regions at high altitude regions, but still need more detail information from agro-meteorological point of view.

An attempt has been done to study the influence of different temperature regimes on dry matter production and yield of soba plant (buckwheat — *Fagopyrum esculentum* Moench) in Indonesia. Two sites of West Java have been chosen, viz Segunung (S1) and Ciawi (S2) which are located at 1150 m and 400 m above sea level, respectively. A cultivar of Kitawasesoba was grown at three population densities and three sequential times. Dry matter productions were observed weekly and yields were sampled at harvesting.

The results of present experiments showed that dry matter production and yield of soba were great influenced by different temperature regime. The results indicated that the cooler the site was, the higher the dry matter production and yield per unit of land. The average dry matter production of S2 has depressed about 42.89 % from that of S1, namely 531.57 g m⁻² and 930.43 g m⁻² for S2 and S1, respectively. Whilst, the average yield per hectare of S2 was decreased about 48.54 % from that of S1, those were 1.466 ton ha⁻¹ of S2 and 2.849 ton ha⁻¹ of S1. Those values, however, are much higher than the world average yield of soba, namely 0.898 ton ha⁻¹.

Based on the experiments, the prospect of growing soba in tropical regions is promising to support food sufficiency and ecological farming, because of their growth is very short, easy to manage with low input of water, fertilizer and pesticide, even it can be planted through the year in suitable places.

Keywords: Buckwheat, dry matter production, temperature regime, tropical region, yield