

# **The effect of soil moisture on the quantity of GABA in HOM MALI 105 rice after using leaf angle measurement of duckweed ( *Lemna minor* ), native azolla ( *Azolla pinnata* ) and agricultural azolla ( *Azolla microphylla* )**

**Yangawee Sroybudda<sup>1</sup>, Pitiphat Pinitjit<sup>1</sup>**

**Pichet Kanglon<sup>2</sup>, Phontip Padtakenang<sup>2</sup>**

<sup>1</sup>Sarakhampittayakhom School, *E-mail:* [bomswy@gmail.com](mailto:bomswy@gmail.com)

<sup>2</sup>Sarakhampittayakhom School

## **Abstract**

Compare moisture management in Hom Mali 105 rice fields using Lemna minor, native azolla (Azolla pinnata), and agricultural azolla (Azolla microphylla).2). Compare the growth of Hom Mali rice 105 after using Lemna minor, native azolla, and agricultural azolla for moisture management. Investigate the leaf angle in Lemna minor, native azolla, and agricultural azolla. 4).Compare the amount of GABA rice in Hom Mali 105 rice.The study found that cultivating Hom Mali 105 rice with agricultural azolla significantly reduced water evaporation each week and supported optimal soil moisture until week 14 (59.50%), just before harvesting. It also resulted in the highest rice growth, with an average dry root weight of 274 grams/stalk, 23 stalks/plant, panicle length of 29.30 cm, seed weight/stalk of 630 grams, and grain size of 20.50 mm. Leaf angle analysis showed that agricultural azolla had the smallest leaf angle (14.68 degrees), followed by native azolla (43.05 degrees), while Lemna minor did not exhibit leaf angle changes. The highest GABA rice content was observed in Hom Mali 105 rice cultivated with agricultural azolla for white, brown, and germinated brown rice, with average values of 9.77, 14.11, and 32.30 mg, respectively. The next highest content was in the experiments involving native azolla, Lemna minor, and Hom Mali 105 rice alone.

**Keywords:** White rice, Germinated brown rice, GABA (gamma-aminobutyric acid).

