In recent years, lodging in rice became a big challenge in the Mekong Delta because of the significant damage to yield and quality of rice. In order to select new varieties of sticky rice tolerable to lodging, high productivity, good quality for production in the region, the sticky rice lines of hybrid combination THL1 (sticky rice NK2 x Japanese rice) had been evaluated and selected. Accordingly, diameter and breaking strength of four top internodes, agronomy and grain quality were assessed as target traits. The results showed that there were two lines of NL2-2 and NL2-8 were noticed as short-day sticky rices; average height; the average diameter of first, second, third and fourth internodes varied from 2.63-3.79; 4.48-5.37; 5.12-6.37 and 5.82-6.88 mm, respectively; the breaking strength of first, second, third and fourth internodes was varied in the ranges of 2.68-3.36; 4.24-6.14; 7.19-9.41 and 10.04-12.38 N.cm$^{-2}$, respectively; the content of amylose is 2.37-2.66%, the content of protein is 7.48-7.7%, the grain length is 6.96-7.09 mm; the granular form is long slender. There was the significantly positive correlation between the diameter internode and the breaking strength. It is possible to carry out the trial to put into production this new stiffculm sticky rices.

**Keywords:** breaking strength, internode diameter, lodging resistance, NK2 sticky rice.