

RESEARCH ON PRODUCTIVITY AND BIOMASS POTENTIAL OF IMPROVED SUGARCANE VARIETIES AT LAM SON, THANH HOA SUGAR CANE CORPORATION

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Summary

The study was conducted on 30 sugarcane varieties from the sugarcane collection at Lam Son Sugar Cane Corporation (LASUCO), Thanh Hoa province and 7 best selected commercial sugarcane varieties in the region. The average yield of 7 commercial varieties in the plant crop season 2017-2018 reached 113.33 tons/ha and 6 of 7 varieties achieved yield of over 100 tons/ha. The average yield of the varieties in ratoon crop I reached 121.46 tons/ha. The weight of cane tops/stem weight (pressed sugarcane) at harvest reached an average of 23%. The average ratio of different residues to the pressed sugarcane during 3 crop seasons from 2016 to 2019 at LASUCO is as follows: Bagasse 27.01%, pressmud 1.26%, furnace ash 1.42% and 4.13% of molasses. Based on the research results, LASUCO has set up a plan to produce high-yielding sugarcane varieties with an estimated output of 1.0 million tons of sugarcane per year on an area of about 10,000 hectares. The expected outputs from 1.0 million tons of pressed sugarcane are about 100,000 tons of sugar (10% of sugar), 230,000 tons of fresh cane tops at harvest, 270,000 tons of bagasse, 12,600 tons of pressmud, 41,300 tons of molasse and 14,500 tons of furnace ash (In case all bagasse burned to produce electricity). The average annual production of sugarcane in Vietnam during 4 last crop seasons from 2015 to 2019 reached about 14.98 million tons. The total annual biomass residues is equal to about 54.8% of the total produced sugarcane, including about 3.4 million tons of tops, 4.0 million tons of bagasse, 0.19 million tons of pressmud, 0.62 million tons of molasses and about 0.21 million tons of furnace ash (if burning all bagasse to produce electricity). Currently, the sugar industry in Vietnam is facing crisis because of low economic returns. We suggest the single way to sustainable and high value added sugarcane production in country should be the application of improved high yielding sugarcane varieties, advanced seed production and cultivation systems in combining with advanced biomass processing technologies.

Keywords: *Sugarcane, yield, biomass.*