Hydrocyanic Acid Content of Sugar Drips (Sorghum bicolor) as Affected by Nitrogen Rates and Growth Stages.*

Chureerat Satjipanon1/  Thipa Bunyaviroj2/  Kritsana Srisapakit3/

Abstracts

An experiment to determine the effect of nitrogen rates (0, 200, 400 kg/ha.) and cutting at 40 days interval, (four times a year), initial flowering (90 days after sowing), flowering (110 days after sowing) and seed harvesting stage (130 days after sowing) on hydrocyanic acid (Prussic acid), dry matter yield and chemical composition of sugar drips were studied in a factorial randomized complete block design. The grass was irrigated during dry period. The experiment was conducted at Chainat Animal Nutrition Research Center, Chainat Province on Rachaburi soil.

The results showed that the hydrocyanic acid was increased, with increasing level of nitrogen fertilizer applied. The maximum was 8.27, 3.17 and 11.92 mg/100g at

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1/ Forage Crop Research Group, Division of Animao Nutrition, Department of Livestock Development
2/ Chainat Animal Nutrition Research Center, Chaimal Province.
3/ Animal Nutrition Laboratory, Division of Animal Nutrition, Department of Livestock Development, Phya-Thai Road, Bangkok, 10400.
appling 400 kgN/ha on dry basis at cutting interval 40 days, fresh and dry basis at initial flowering stage respectively. The first cut at 40 days cutting interval contained maximum hydrocyanic acid (8.97 and 13.78 mg/100 g on fresh and dry basis respectively). Sugar drips declined in hydrocyanic acid with maturity.

Dry matter yield was tended to increase with increasing nitrogen fertilizer (maximum 11,693 kg/ha at 400 kg N/ha). Effect of cutting on growth stages was showed that the maximum dry matter yield cut at flowering stage (13,356 kg/ha). Cut at 40 days interval contained high protein (average 8.5%) and low acid detergent fiber (average 32%).