

Application of lactate press mud for plant growth

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ABSTRACT : About 400 metric tons of lactate press mud (LPM) generated per annum during the separation of lactate salts from fermented broth poses soil, water and aerial pollution problem for lactates making industry. Its utility as a soil conditioner to improve productivity of sweet sorghum (*Sorghum bicolor*) as an alternative to sugarcane molasses for ethanol production has been explored. The field productivity trial was conducted as per ICAR norms on 3x6 m plots fortified with 6 and 12 kg LPM over the period of 4 months by monitoring shoot height, girth biomass, root ramification and mass, chlorophyll content and sorghum productivity. The results over control indicated (i) LPM dose- dependent response of plants, (ii) 21.6% more sorghum yield, (iii) 28.5% more shoot biomass to serve as substrates for ethanol production and (iv) 26% more root biomass to serve as mycorrhizae-rich bio-fertilizer for sustaining soil fertility. Thus, the study demonstrated the utility of LPM, concurrently generating an avenue for additional income to lactate industry in environmental-friendly and industrially useful application.

Key Words: Lactate press mud (LPM), soil conditioner, *Sorghum bicolor*, bio-efficacy.