Pre-germinated single bud setts: a way to improve ecological resilience at planting

1- Planting is a major issue in sugarcane

- Plant cane impacts on successive ratoons
- A good germination reduce weed pressure and herbicide use
- Gap filling is time consuming and expensive
- Sugarcane setts should be healthy
- Planting sugarcane in mulch is challenging

2- Pre-germinated single buds transplanted compared to traditional planting

- On a 3 month mulch (7.4 t/ha dry matter)
- On a 7 month mulch (11 t/ha dry matter)

Results on plant cane:

- 80 % economy of setts
- No yield reduction
- Same number of nodes/stalk
- Higher stalk number for single buds compared to traditional planting (8%)
- Good bud multiplication ratio of 1:99

3- Many advantages of the technique

- Soil tillage reduction
- Water retention, erosion limitation, functional biodiversity
- Full and homogeneous germination
- Saving of bud setts to be planted
- Less or no use of herbicides

4- Further improvements

- Mechanical transplanting techniques in efficient mulch
- Reduce labor cost by optimizing mechanization
- Complementary nutrients in pot
- Acclimatization of young plants before transplantation

References:

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