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Comparison of 'into' and 'beside' stool nitrogen placement

Smith, MA

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COMPARISON OF 'INTO' AND 'BESIDE'

STOOL NITROGEN PLACEMENT

by

M A Smith

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ABSTRACT

There are now two alternative methods of subsurface nitrogen placement available: beside the stool or into the stool. The second, into the stool treatment, is easier to accomplish. Comparison of cane yields from strips fertilised by the two methods revealed no significant differences.

BACKGROUND

In north Queensland, the common subsurface fertiliser method in GCTB ratoons is to place the fertiliser through two coulters running each side of the stool approximately 35-40 cm apart. The cost of two coulters per row and the difficulty in operating them makes subsurface fertilisation an unacceptable option in some cases.

A cheaper and sometimes easier to operate option has been developed which places the fertiliser subsurface through a coulter into the centre of each stool. Fertiliser placed in such a way is protected from volatilisation losses and is close to the plant. Uptake can occur quickly even though the root system may be debilitated. The only question with such a machine is the possibility of damage to the stubble or stool. These demonstrations were set out to measure any yield effects which could be attributed to the two different fertiliser placement methods.

METHODS

On the farm of Mr F Lizzio at No 4 Branch, Silkwood, a strip trial with three replications of each fertiliser placement (2) was set out. The same fertiliser rates were applied to each treatment. Yields and ccs data were obtained from mill bin weights and six stalk sample small mill ccs.
RESULTS

Statistical analyses using a Kruskal-Wallis oneway nonparametric analysis of variance showed that the spit stool treatment was superior (5% level of significance) to the beside stool treatment.

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<th>Beside</th>
<th>Into</th>
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<tbody>
<tr>
<td>Cane (t/ha)</td>
<td>64.5</td>
<td>69.3</td>
</tr>
<tr>
<td>Sugar (t/ha)</td>
<td>11.4</td>
<td>12.4</td>
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Four unreplicated comparisons were set out on different blocks and farms in the Hawkins Creek district of the Macknade mill area. Using the same statistical test with data from all sites included, no difference in cane yield or ccs could be detected.

These results suggest that damage to the stool does not occur when using an into the stool applicator and support observations made elsewhere.