



## Singulation Study in Maize

### **STUDY CONTACT:**

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### **OBJECTIVE:**

The objective of this study was to show the advantage of good singulation in maize production.

### **STUDY DESIGN:**

During the 2018/2019 cropping season, maize yield was compared in a plot planted with good singulation (99%) to a similar plot planted with poor singulation simulation (about 81%) on the same field using the MF 9812 precision planter at the AGCO future farm in Zambia.

### **RESULTS:**

Overall grain yield was lower than average due to very low precipitation in this region during the 2018/2019 cropping season. Planting maize seeds with good singulation resulted in a 20% increase in grain yield (6.4 t/ha) over the field planted with poor singulation (5.3 t/ha).

The 20% yield increase was attributed to a better distribution of plants, which resulted more uniform plant growth, less plant-to-plant competition, and improved nutrient uptake.

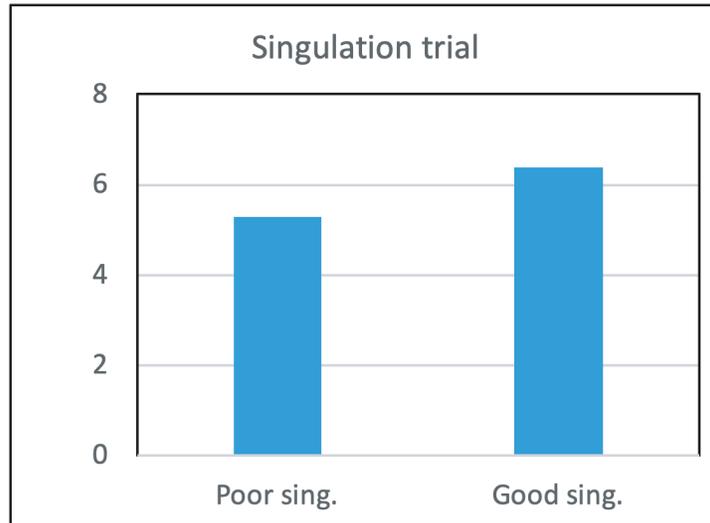


Figure 1: Maize yield in tons/ha dry matter at harvest. Maize was planted with good and poor singulation and harvested at maturity



Figure 2: MF 9812 (12 row) precision planter at work at the AGCO future farm in Zambia.



Figure 3: Maize planted using the MF 9812 (12 row) precision planter with proper singulation.

### ADDITIONAL OBSERVATIONS:

Good singulation distributes seeds more evenly in the field, minimizes skips and doubles and ensures target plant population. A more even plant distribution also means better soil cover and preservation of moisture, that will be available for plant uptake.

### RECOMMENDATIONS & EQUIPMENT SOLUTIONS:

With the AGCO precision planter technology, you can plant maize with a singulation precision of more than 99%, achieving target plant population and more even distribution of plants in the field.

### PAYBACK

The maize singulation study showed a 1.1t/ha difference between proper and poor singulation. This equates to \$154/ha revenue and it should take about 240ha to payback the cost of investment on an 8-row planter.

Assumptions: Average price of maize - \$140/t