A Report to the Maize Trust

by the

Bureau for Food and Agricultural Policy (BFAP)

BFAP
DATA DRIVEN INSIGHT

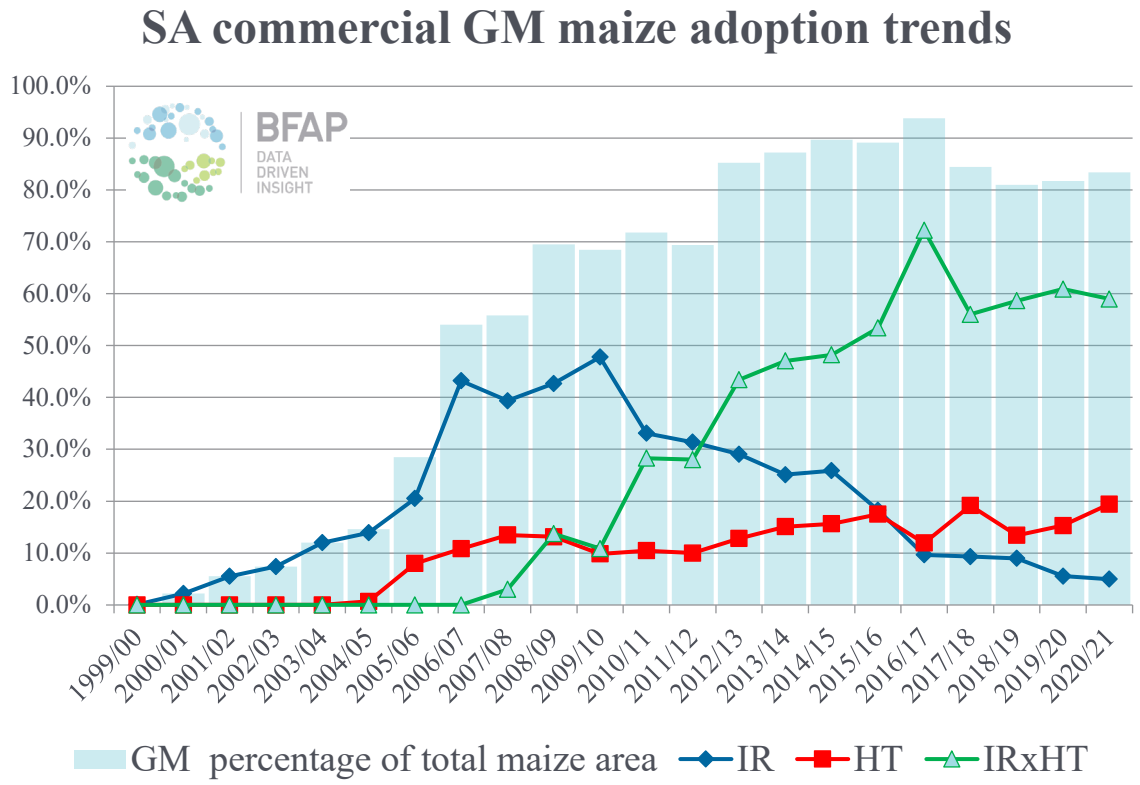
October 2022

Executive summary

In 2020/21, the total SA commercial white and yellow maize areas increased (compared to the 2019/20 season) with the total maize area increasing by an estimated 145 000 hectares. Interestingly, while the total commercial white maize area increased by about 4.7%, the GM white maize area increased by 12.2%, while the GM yellow maize area was stable, decreasing by less than 1%.

Where the last number of seasons' increased, conventional maize plantings were attributed to non-GM maize price premium expectations, and the endeavour to reduce input costs and financial risk in an environment associated with lower grain prices and volatile weather conditions, the 2020 planting season expectations at planting time were that of relatively good prices and largely favourable weather conditions. 2018/19 and 2019/20 saw a slight decrease in the commercial GM maize area, but the area increased in 2020/21 to reach 83% which compares well with the 84% of 2017/18. Though lower than in 2019/20, the conventional yellow maize area was still substantial at 28%, while the white conventional maize area was estimated at 9% of commercial plantings.

- The insect resistant (IR) Bt single trait area and percentage share decreased slightly.
- Single trait herbicide tolerant (HT) maize plantings increased by 136 000 hectares, driven by increased HT white maize plantings, and the total HT area contribution increased from 15 to 19 percent for the 2020/21 production season.
- The stacked IRxHT maize area increased by 35 000 hectares, but its share in total area decreased from 61% to 59%.



Background & Methodology

Background

An assessment of the adoption trends of GM maize seed in South Africa has been funded by the Maize Trust on an annual basis since the 2006/07 production season. The main objective of this ongoing initiative is to estimate the most recent maize production season's GM maize planting areas and GM trait adoption trends, as seed sales figures become available, in order to expand the historic database on GM maize plantings in South Africa, and serve as an information source to industry stakeholders.

This document presents the report for the 2020/21 production season.

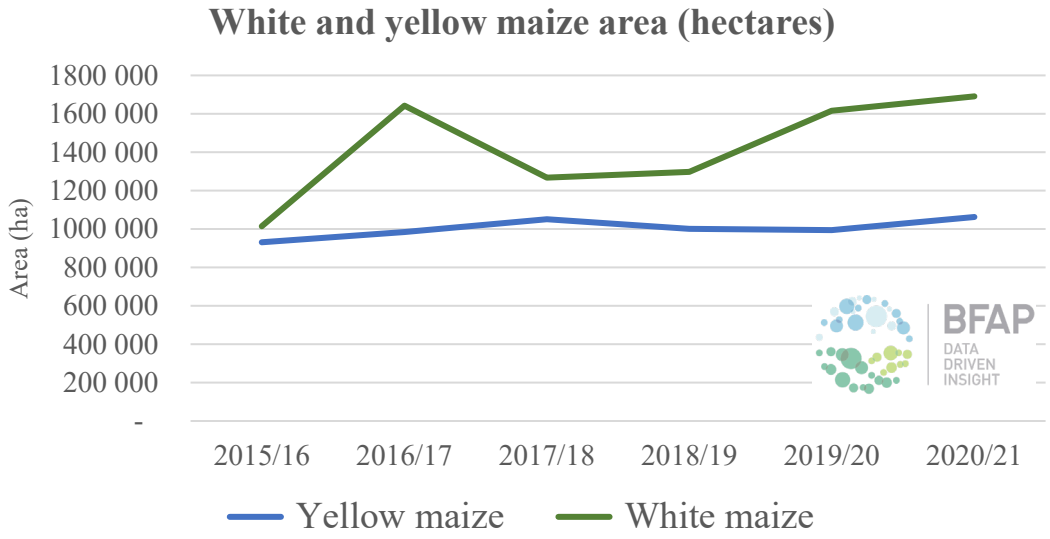
Methodology

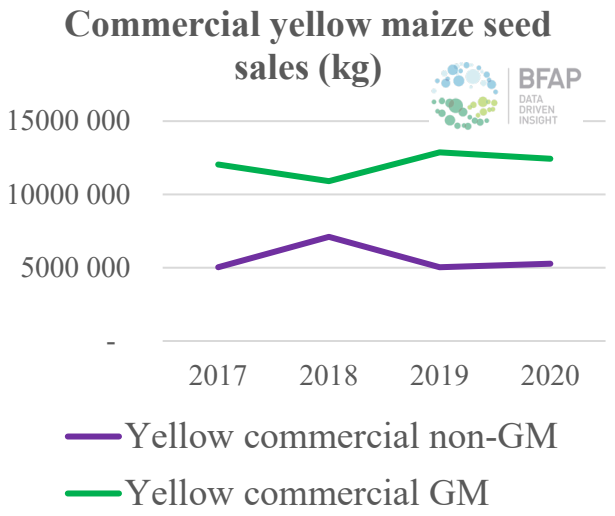
- SANSOR's annually reported commercial seed sales figures were used to determine the conventional / GM maize seed split for commercially planted maize.
- Seed company provided seed sales data was used to distinguish between the different GM traits.
- Seeding rate assumptions were made based on BFAP's set of representative farms across maize production regions, and in line with the methodology employed in previous Maize Trust GM maize area assessment studies.
- Regional GM trait and conventional maize distribution assumptions were based on seed company indications, historic data, as well as discussions with industry role-players.

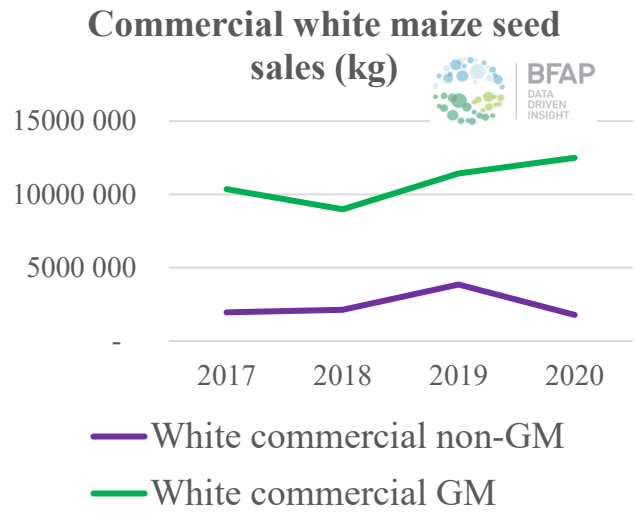
Overview of the 2020/21 production season

Following the drier 2018/19 and slightly better 2019/20 seasons, planting conditions were relatively good in 2020, and South African maize farmers showed their resilience during the COVID pandemic to increase maize plantings by 144.6 thousand hectares to 2.755 million hectares and produce the second largest maize crop on record, at 15.3 million tonnes.

According to seed sales data collected and reported by SANSOR, 5 271 tonnes of conventional yellow maize seed was sold in 2020, for the 2020/2021 maize production season, and 12 419 tonnes of GM yellow maize seed. This means in 2020, 30% of the yellow maize seed sold to commercial farmers were conventional (non-GM) seed. This is in line with the 28% of the previous year, but lower than the 39% reported in 2018/19. For white maize the conventional seed sales percentage was 12.4% in 2020, which is drastically lower than the 25.2% reported for the 2019/20 season.







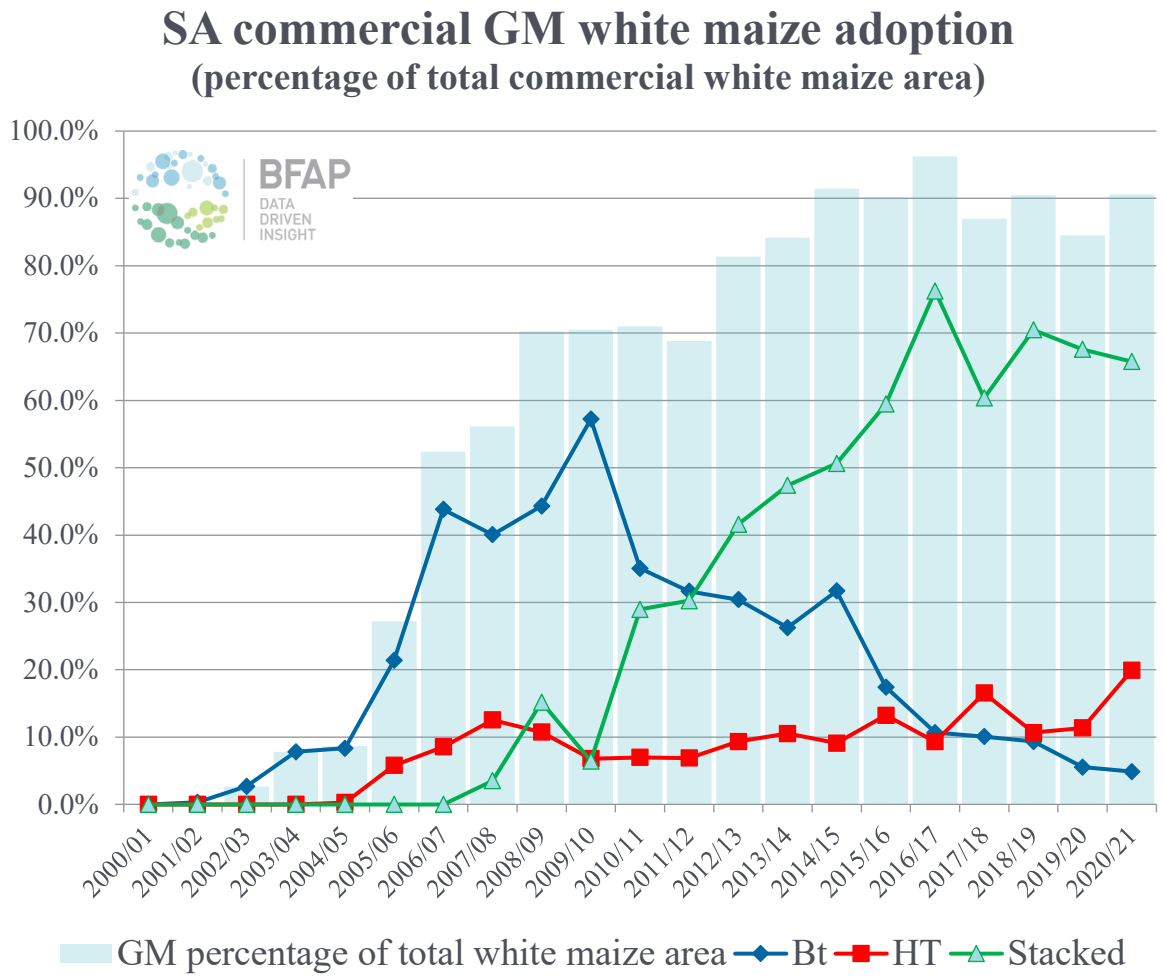
White maize area

- Conducive planting conditions in late 2020, and relatively attractive grain prices, resulted in an increase in the white maize area, with additional hectares mainly planted in the Free State and North West Provinces.

- It is estimated that the conventional white maize area decreased from 16% in 2019/20 to 9% in 2020/21. Bt maize (insect resistant) as single trait continued to decrease, dropping from 6 to 5 percent. The area under herbicide tolerant single trait maize increased by an estimated 153 000 hectares, with a relative increase from 11% to 20% of the total white maize area. While stacked maize area plantings increased by just over 20 000 hectares, the relative share decreased somewhat due to the substantial increase in HT single trait plantings.

- When considering the trait and conventional shares of the last four years, it would seem as if farmers that planted more conventional white maize seed in 2019/20 (compared to 2018/19) opted for single trait HT seed in 2020/21 in stead of the stacked IRxHT seed.

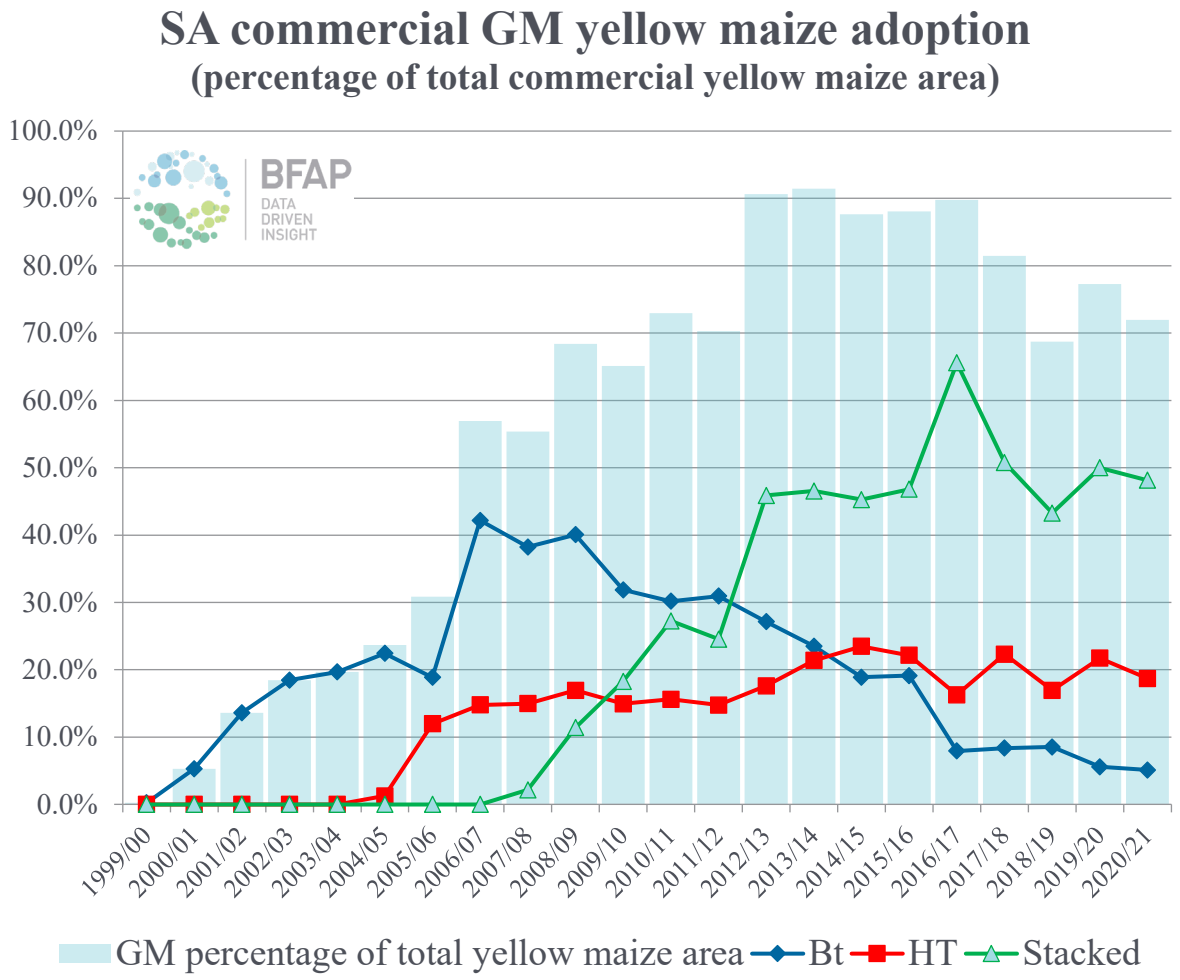
- It is estimated that 90.6% of the total commercial white maize area was planted to GM seed in 2020/21, an increase from the 85% in 2019/20 and in line with the 90% of 2018/19.



Yellow maize **area**

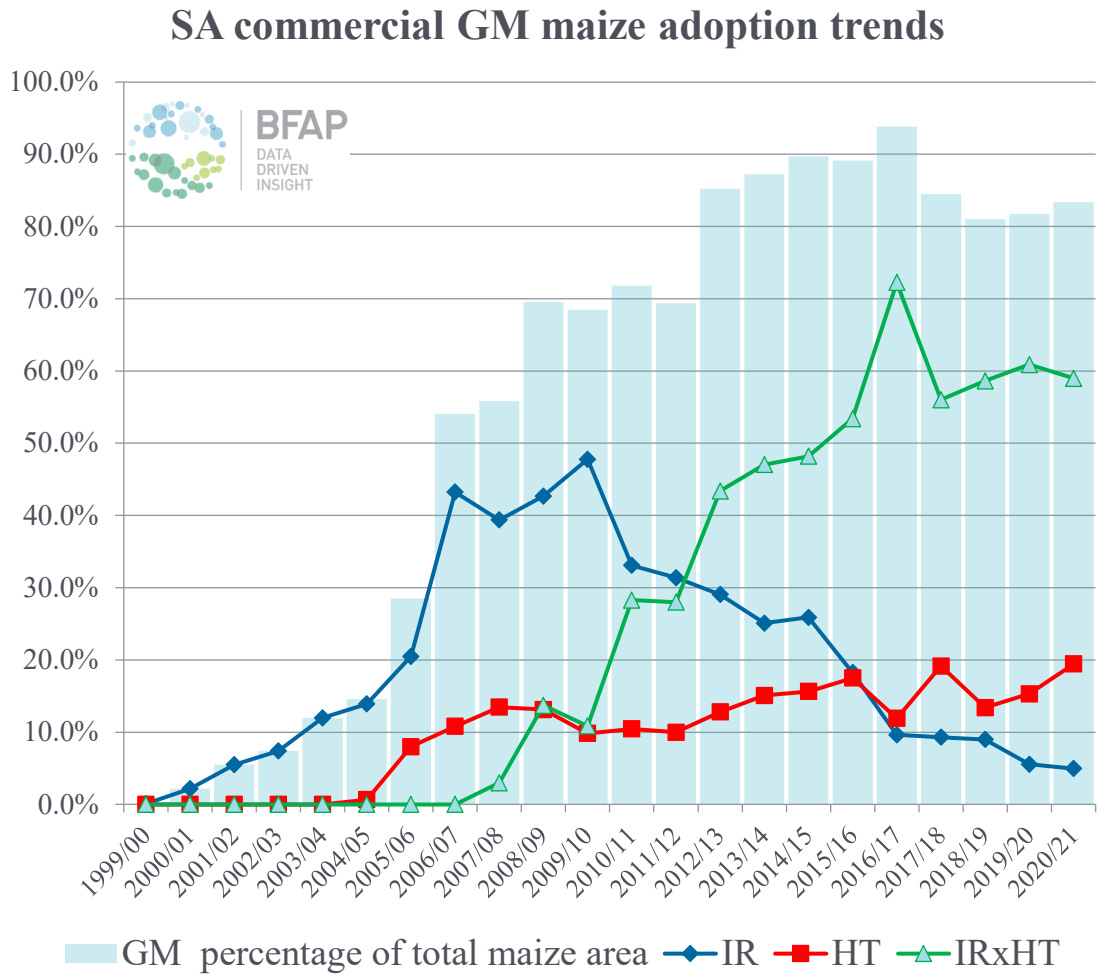
- The conventional yellow maize area increased with 72 000 hectares (32%) to reach an area more in line with the 313 000 hectares of 2018/19. Because the total commercial yellow maize area increased, the total GM area only decreased by just over 3 000 hectares despite the substantial conventional area increase, but the GM yellow maize share of the yellow maize area decreased from 78% to 72%, with all three GM technologies shedding some percentage points.

- A large share of the yellow conventional maize produced in South Africa is used in the production of beer, and with COVID-19 regulations limiting sale and production of alcohol, there was reduced local demand for non-GM maize. The increased conventional yellow maize area was thus most likely planted with possible high non-GM premiums in the export market in mind, rather than the local market.



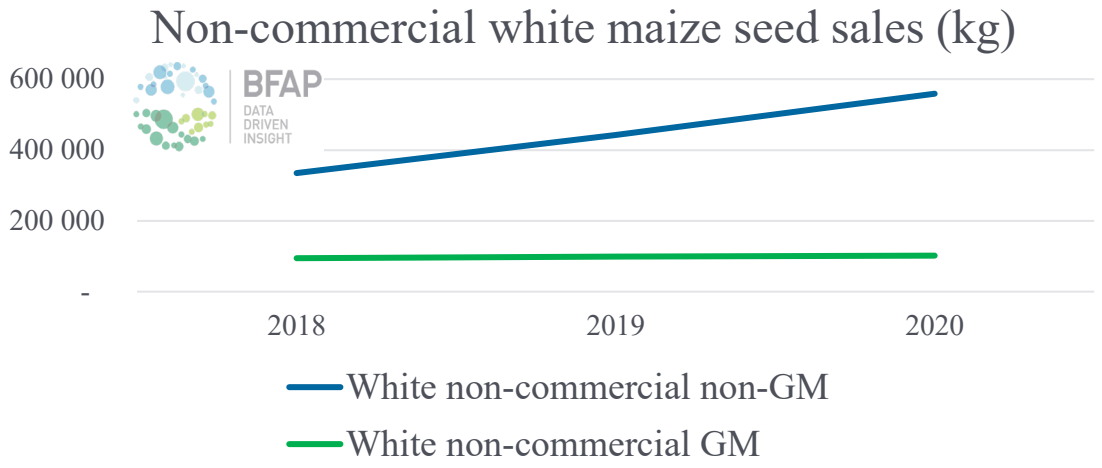
Total commercial maize area

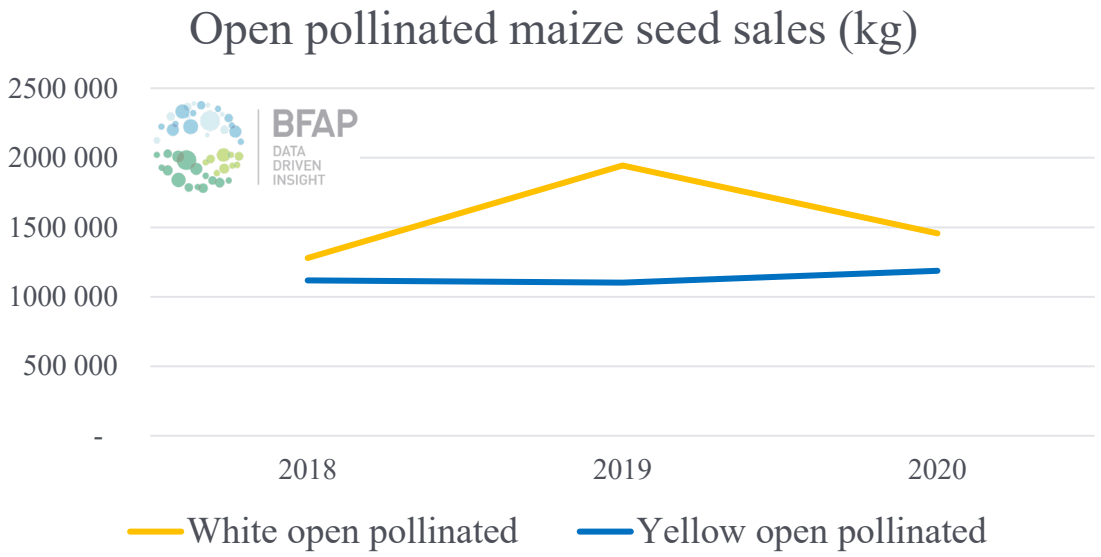
- The higher GM white maize area more than compensated for the lower GM yellow maize area, with the total GM maize area increasing by 163 000 hectares and the GM maize share increasing from 82% to 83.4% of the total maize area.
- It then follows that the total conventional area showed a small decrease due to the conventional white maize decline, and despite the substantial conventional yellow maize area increase.
- The Bt single trait area and percentage share decreased slightly, while the stacked IRxHT maize area increased by 35 000 hectares, but its share in total area decreased from 61% to 59%. Single trait HT maize plantings increased by 136 000 hectares, driven by the increased HT white maize plantings, and the HT area contribution increased from 15 to 19 percent for the 2020/21 production season.
- As was observed in the 2019/20 report, it would seem as if farmers tend to plant more (less expensive) conventional maize in seasons when they try to minimise production input costs, from a financial point of view as well as from a risk point of view, when planting in less than ideal moisture conditions. These risk-averse plantings should not be confused with the planned and contracted conventional maize plantings, largely in the eastern Highveld area, where a traceability system and dedicated non-GM maize silos allow for segregation for local and international non-GM maize markets.

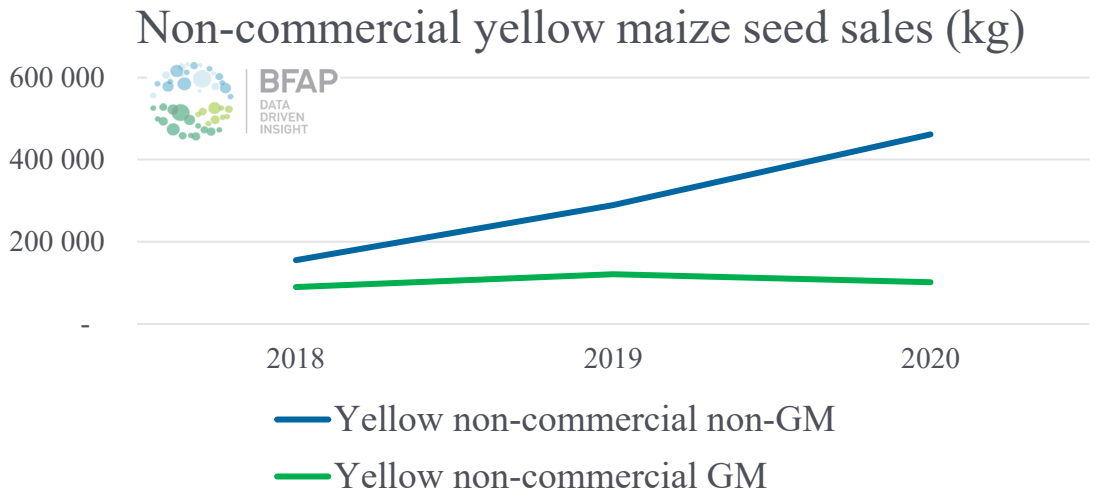


Non-commercial (small-scale) seed use

- SANSOR figures for GM maize seed sales to non-commercial farmers indicate a rather stable 100 thousand kgs of seed (for both yellow and white maize) while conventional hybrid seed sales have been increasing.
- Company seed sales indications suggest that both yellow and white GM seed sales to non-commercial farmers are substantially higher, but still limited when compared to conventional hybrid seed sales.
- In 2020 more than 2 640 tonnes of open pollinated seed was sold, mainly to small-scale farmers; enough to plant about 175 000 hectares.







For any questions, please contact Dr Marnus Gouse at Marnus@bfap.co.za

www.bfap.co.za

www.maizetrust.co.za