

# SEVERAL HIGHLIGHTS

## for irrigated wheat breeding in 2020

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The crop improvement programme at ARC-Small Grain has been supplying new and improved wheat cultivars to the producers of South Africa since the late 1960s. The spring wheat-breeding project for the irrigation areas has developed producer favourites such as T4, Palmiet, Kariega, Steenbras, Duzi and many more.

These reliable cultivars have proved their worth over the decades, but can no longer compete with newer, higher yielding cultivars. Feeding the expanding South African population bread products made from locally produced wheat has become increasingly challenging. The required rate of genetic improvement is greater than what is currently achieved by plant breeders. There is also a rapid decline of wheat production areas locally due to

climate change and a perceived low profit margin for dryland wheat producers (Graph 1). Continuous pressure remains on the irrigation production areas to produce more and more wheat to contribute to South Africa's food security.

### Trial successes in challenging times

Despite the fact that 2020 was a particularly challenging year, all the trials in the irrigation area were carried out successfully. This was due to the dedication and hard work of our technical teams through the level 5 lockdown period during March and April of 2020. Despite the uncertain and frightening time, our teams at ARC-Small Grain were hard at work preparing trials. Due to their commitment, all trials were planted on time. Advanced trial entries were planted at multiple locations in cooler irrigation areas. Trial localities include: Vaalharts, Marydale, Prieska, Douglas, Orania and Modderivier. Seed harvested from the 2020 trials have been sent to the Southern African Grain Laboratory (SAGL) in order to evaluate the quality of the lines. After SAGL has completed the quality analyses, they will recommend whether a line is suitable for final release.

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Some highlights for 2020 include the open day held in November at the Modderivier trial site for prospective seed companies to market ARC wheat cultivars for the irrigation area. Renoster and Koedoes have been awarded to Klein Karoo Seed, who is now merged with Limagrain Zaad SA. Both Renoster and Koedoes have short growth periods and average yields of 10,6 t/ha and 10,3 t/ha respectively. To purchase seed, the contact numbers for seed representatives in your area can be found on the Limagrain Zaad SA website ([www.lgseeds.co.za](http://www.lgseeds.co.za)).

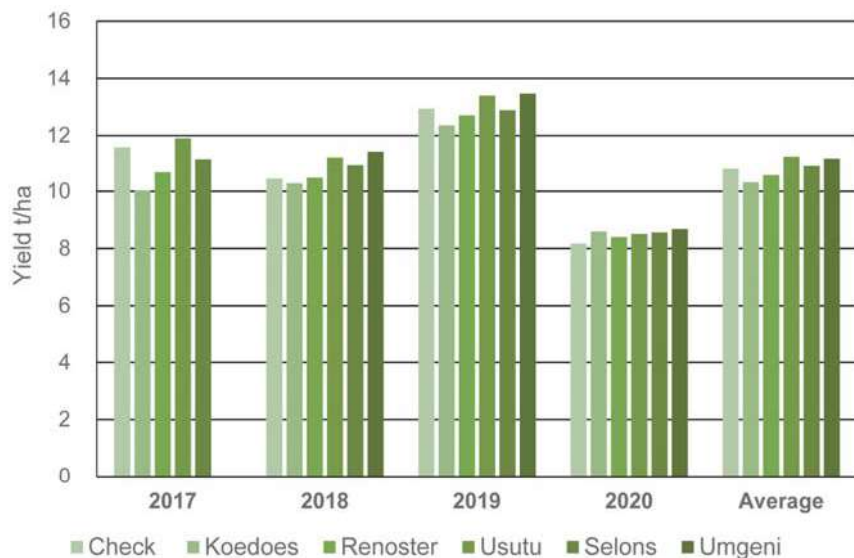
### Selons and Umgeni

Another highlight for 2020 was the approval of Selons and Umgeni for final release. Selons has a medium growth period and an average straw length of 95 cm. In terms of disease resistance, Selons is moderately resistant to leaf rust, but is resistant to moderately susceptible to stripe rust. Capable of producing high yields, Selons has an average yield of 10,9 t/ha. Umgeni will without doubt be the new flagship cultivar for the ARC in the irrigation areas. In contrast to Selons, Umgeni has a short growth period, making it desirable to many producers. Umgeni produces excellent yields, with an average of 11,2 t/ha.



Graph 1: Wheat area planted in South Africa.

Source: Grain SA



Graph 2: Cultivar yields between 2017 and 2020.

ARC-Small Grain wheat cultivars at the Modderrivier open day.

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Spotlight

IRRIGATION



Apart from its superb yield potential, Umgeni is also moderately resistant to leaf rust and resistant to stripe rust. The two new cultivars will surely develop into industry favourites.

**Usutu**

Usutu is another cultivar that will enter the market along with Selons and Umgeni. Usutu has a medium to late growth period with excellent yields and an average straw length of 105 cm. Similar to Umgeni and Selons, Usutu has not exhibited any lodging

problems despite its exceptional yields and large ears. The average yield for Usutu is 11,3 t/ha and the cultivar is moderately resistant to leaf rust and moderately susceptible to stripe rust. **Graph 2** shows the average yields from 2017 to 2020. ●

For further information regarding any of these cultivars, please contact Kim Delpont at 021 809 3558 or coetzeek@arc.agric.za.



Y657

2019/20 ARC NO.

HIGHEST AVERAGE YIELD: MODERATE AREA



Information on the National Soya Bean Cultivar Trials and a useful guide, namely "Soya Bean Production Manual" are available at: **ARC-GRAIN CROPS** (018) 299 6100|Private Bag X1251, Chris Hani Street 114, Potchefstroom, 2520

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SOUTHERN HEMISPHERE SEEDS