SORGHUM IN SOUTH AMERICA

One of the most **promising crops**

In 2020, KWS started a new breeding program for grain sorghum in Brazil. The sorghum breeder Vinicius Costa de Almeida explains why it is competitive in the market and what he wants to achieve.

The global interest in sorghum is growing with climate change, increasing drought periods, lack of water and increasing costs for irrigation of traditional crops, and with improved technologies like herbicide tolerance. That's especially true in Brazil, where the area of sorghum has been growing year by year since 2014 and achieved 1.1 million hectares last year. Grain sorghum has over 80% of the market share in Brazil and is used more and more in the domestic feeding industry and to some extent for ethanol production.

The trend is also visible in neighboring countries such as Bolivia, where the planted area has grown since 2008 from less than 100 T ha to 500 T ha in 2021; 87% of that is grain sorghum. And finally, in the traditional sorghum market Argentina, acreage has increased from 570 T ha to 950 T ha within the last 3 years, with a focus on grain sorghum. The biggest exporter of these three countries is Argentina, which exports almost 50% of its production. The average yield in Brazil is around 3 T/ha, in Argentina 4.4 t/ha and in Bolivia 2.2 t/ha.

In Brazil grain sorghum is sown in safrinha (sowing after the main crop - the so called safra) and is an excellent option for crop rotation with soybeans. That is mainly true for later sowing, when it could be less economically interesting for corn (see chart). After February 15, it makes sense to plant sorghum instead of corn, because corn is not able to deliver satisfying and stable yields when sown so late. Sorghum sown in January can be under higher pressure from rainfall, which causes lower yields. Sorghum sown in the Brazilian summer reduces insect as well as weed and pest pressure in that area.

New breeding program for grain sorghum

In 2020 KWS started a new sorghum breeding program in Brazil at the Sorriso station in the region of Mato Grosso. The breeding focus here is on grain sorghum. KWS Brazil is not a greenhorn in the sorghum market. In 2020 KWS achieved a market share of over 15% with three licensed products. There are two products in the grain segment and one product in the forage segment.

The main breeding targets of the young program are red grain hybrids with high health (resistance to anthracnose is particularly important) and excellent yield potential. The earliness is also an important characteristic because it lends more flexibility in sowing time and makes it possible to sow without any risks in March, too.

The Brazilian sorghum breeder Vinicius Costa de Almeida is also looking for resistance to the main insect pressures in Brazil, such as the growing population of sugar cane aphids. The aphid can cause yield losses of up to 100% if the variety is not resistant. The own genetic base is developed on the lines with the above-mentioned required characteristics. In the coming years the breeding program is also planned to expand the hybrid testing operation to the "new main regions" in Brazil, called MATOPIBA. There, sorghum is one of the most promising crops, given the weather conditions.

"Grain sorghum plays an important role in the Brazilian market, given its competitive price compared with corn, for example. That has taken sorghum to a new level; farmers nowadays are investing more in agronomic practices, disease control and hybrid seeds of high yield potential," says Vinicius. "The goal is to have 100% KWS hybrids for the sales team in the year 2025 and play a bigger role in the market in Brazil."

On the market faster than planned

To achieve this, his breeding program uses two nurseries, one for the summer in Uberlandia, right in the middle of the sorghum area in Brazil, and one for the winter in Petrolina, where it is possible to have three harvests in one year. This helps KWS to be on the market with real KWS sorghum as soon as possible.

This breeding program also enables KWS to fulfill the demands of the Bolivian market. Unfortunately Argentina has other requirements regarding tannin content in grain, and this is not yet integrated into our breeding program.

"The first 10 hybrids developed in Brazil are going to application this year," says Vinicius, "in order to be on the market even earlier than the internal goal!" |

Magdalena Buschmann

magdalena.buschmann@kws.com

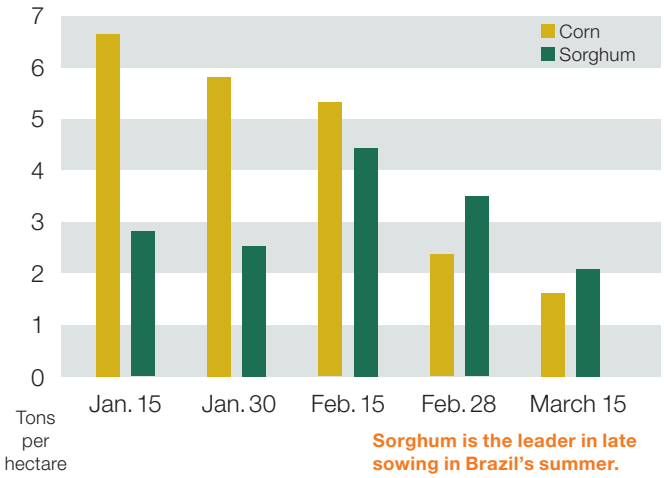
Vinícius Costa Almeida's first ten grain sorghum hybrids are expected to be launched on the Brazilian market sooner than planned.

FACTS AND FIGURES

Change in **cultivation area**

	2000	2010	2021
Europe	755,473	501,179	530,000
North America	3,126,630	1,947,770	2,509,300
South America	1,659,644	1,810,234	2,418,090
Central America	2,161,465	2,035,628	1,470,127
Africa	20,778,426	24,380,265	28,122,100
India	9,856,400	7,787,200	4,800,000
Australia	622.267	516,000	530,000
Asia	2,837,142	2,059,212	1,899,000
Total	**41,797,447**	**41,037,488**	**42,278,617**

Yield compared with corn



Sorghum is the leader in late sowing in Brazil's summer.