

Mixed cultivation of maize with sorghum is about increasing the reliability of cultivation in dry, low-precipitation regions. Maize serves as a total dry matter, starch and energy supplier, while sorghum ensures yield security with its pronounced drought tolerance. Other advantages include greater biodiversity and an extended harvest window.

Deutsche Saatveredelung AG (DSV) breeds forage plants at its Dutch site in Ven Zelderheide - traditionally grasses and small-grain legumes. However, this site has also been working on the development and testing of early, cold-tolerant silage sorghum varieties for several years. Due to its characteristics, sorghum is well suited to being integrated into maize crop rotations. As part of crop rotation diversification, silage sorghum can completely replace silage maize, especially on light, droughtprone sites. DSV offers a new approach with maize-sorghum mixtures. Since 2023, there have been a total of nine standards for the good agricultural and environmental condition of land (GAEC) as part of the implementation of the Common Agricultural Policy (CAP). GAEC 7 describes the crop rotation within farms. In this context, maize mixtures with beans or sorghum are considered as an independent crop rotation element up to and including 2025. Maize mixtures are an attractive way of optimising biodiversity, feed values, yield and cultivation safety in crop rotation. They can therefore also be a valuable crop rotation element in arable farming beyond the end of the GAEC 7 regulations.

## Sorghum as a mixing partner

Sorghum develops somewhat differently from maize in the mixture. The species is thermophilic, so the sowing period should start at a soil temperature of 12 °C and is then quite flexible for a further four weeks. With a sowing depth of 2 to max. 4 cm, both partners of the mixed crop are quickly established in the field. The maize initially gains a slight head start, but is then caught up by the sorghum so that both develop in parallel. It is important to use a sorghum variety suitable for the mixture that can withstand the competitive pressure of the maize and ultimately make its contribution to yield and feed value.

## Easy to sow with maize using a "pellet"

DSV has invested a lot of work in the development and application of a sorghum pellet to ensure better sowing of the maize and sorghum mixture. To achieve an adequate pelleting process, sorghum seeds were going through a series of processing stages. The unprocessed



seeds are of a particularly high quality. The seed is certified after pelleting. This ensures high field emergence values and was also confirmed in prac-

tice in spring 2024. The size of the pellet is designed in such a way that it can be easily sown together with the maize. Its composition ensures good stability during the mixing process and during transport right up to sowing. The germination water can penetrate the coating so that the pelleting does not affect the sorghum's ability to germinate. A green finishing layer is applied to the outside to make the pellet less susceptible to mechanical influences. The colouring (green) also identifies the DSV original pelleting.



As a maize variety in the mixture with sorghum, DSV generally uses Germany's highest-yielding silage maize variety<sup>1</sup> JAKLEEN S 220. This variety harmonises well with sorghum. Other mixtures with slightly later varieties are also possible. The mixture is created at a ratio of maize: sorghum 2:1, totalling 60,000 kernels per DSV unit. DSV recommends sowing 8 plants of maize and 4 plants of sorghum. This corresponds to 2 units per ha for the DSV mixture. In very dry conditions, the sowing rate can be reduced to 1.7-1.8 u/ha. The DSV unit with 60,000 kernels differs from other maize mixtures on the market, with a surplus of 10,000 kernels.

The DSV sorghum pellet, which has now been developed and tested over several years, has once again shown itself to be very positive in the 2024 cultivation year when mixed with maize. It will also be available in the new season.

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<sup>1</sup> biennial settlement of all biennially tested varieties