

New LEMKEN Azurit for single-seed drilling "DeltaRow" concept for optimised plant distribution

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LEMKEN, the agricultural machinery specialist, announced its venture into single-seed drilling as early as Agritechnica 2013, and the company has now launched the pre-production machine of its blue Azurit, which stands out through the novel "DeltaRow" placement system.

The DeltaRow system clearly differentiates LEMKEN technology from traditional approaches, in which seeds are placed in single rows. The LEMKEN designers have instead opted for two staggered twin rows spaced 12.5 cm apart. This gives individual plants 70% more surface area for growth and ensures better access to water and nutrients. The Azurit allows maize, soya beans, sunflowers and rapeseed to be sown with great precision and efficiency at forward speeds of up to 15 km/h.

The process firstly involves two residue wheels clearing harvest residue and stones. A fertiliser coulters then places a fertiliser band precisely in the middle between the twin rows, and a trailing trapeze packer roller closes the fertiliser groove. The trapeze rings pre-consolidate the furrows – another stand-out feature of the LEMKEN Azurit.

Seeds are conveyed to the singling units "on demand" from a central seed hopper. The singling unit comprises two synchronised perforated discs, which distribute seeds alternately onto the two double disc coulters of the DeltaRow seeding unit. The coulters, which are guided by a depth control wheel installed centrally between them, place the seeds precisely in the pre-consolidated furrows. The twin seed rows are then closed by a V-shaped pressure roller.

Individual DeltaRow twin rows can be switched off to create tramlines, with the ability to adjust application rates flexibly to ensure that plant populations per hectare remain constant. The Azurit allows rows to be spaced with up to 87.5 cm centres, and the distance between the seeding units can be adjusted down to 37.5 cm.

The use of two synchronised perforated discs results in each disc singling only every other seed, which keeps the diameter narrow and thus minimises circumferential speed. The time interval for the singling process is sufficiently large to achieve substantial qualitative improvements in longitudinal distribution and double seeding.

Source: FH Münster