

## Sorghum Flowering and Pollination

Close inspection of many late-planted crops which appear to have suffered midge damage show that midge were not the cause of the poor seed set. The erratic seed set was in fact caused by cool weather at flowering as a result of a very late planting date

Sorghum heads flower from the top down over 4 to 9 days. Flowering commences when the glume opens and the pollen sacks emerge and release the fine pollen powder which grows down the stigma tube and fertilises the grain ovary.

Fertilisation normally takes place within 2 hours of the pollen landing on the stigmas. This happens soon after sunrise in the coldest part of the day.

Researchers find it difficult to nominate the exact temperature below which pollen production is affected and pollen becomes non-viable, but temperatures below 10°C and above 40°C definitely reduce pollen viability.

Even if temperatures are not the problem, in conditions of high moisture and low humidity, pollen sacks do not dry out fast enough; their skin becomes “rubbery” and they won’t split and shed pollen. Foggy, cool autumn weather exacerbates this problem.

Cold weather at flowering has reduced pollen viability and caused erratic seed set in late planted crops on a number of occasions. Breeding for high pollen production is one of the key breeding goals for HSR Seeds grain sorghum research and development programme. Pollen viability is also important, as large amounts of unviable pollen are not useful. With access to a number of genetic backgrounds HSR Seeds have released a number of new hybrids which show these characteristics of high Pollen production combined with highly viable pollen. Pollen Power™ hybrids will be at the forefront of new releases from our ongoing intense trialling programmes.

High levels of highly viable pollen also help to combat Ergot infestation, and we believe these Pollen Power™ hybrids will play a much more significant role in future management practices to reduce Ergot risk