

# Adsee™ ST4

**No sacrifices of performance or cost targets! A new solution for seed treatment**



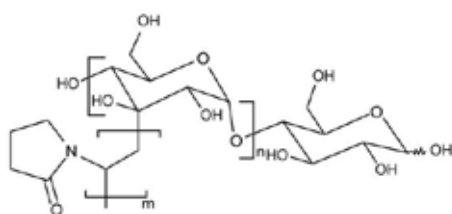
Adsee™ ST4 is a unique starch based polymer that represents a new way for formulators to create more natural and sustainable seed treatment products without any sacrifice of performance properties or cost targets.

- An innovative, nonionic hybrid technology combining maltodextrin and vinylpyrrolidone
- Containing >50% renewable content
- High binding capacity for FS formulation to the seeds
- Effectively reduce dust-off from coated seeds
- No negative impact on flowability or germination

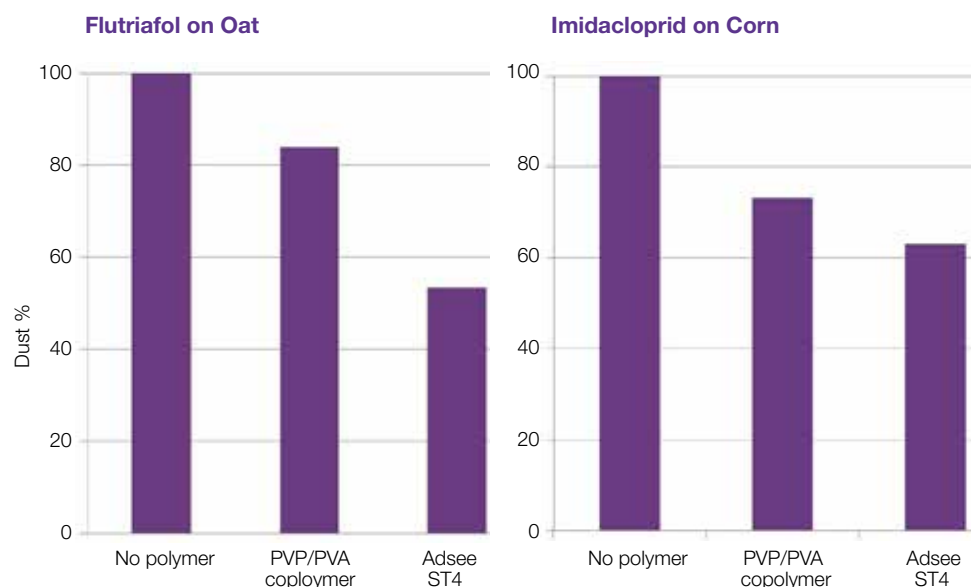


## Adsee ST4 is effectively reducing dust-off from coated seeds

Adsee ST4 is compared to benchmark seed treatment polymers at 1% active content



Schematic structure of Adsee ST4

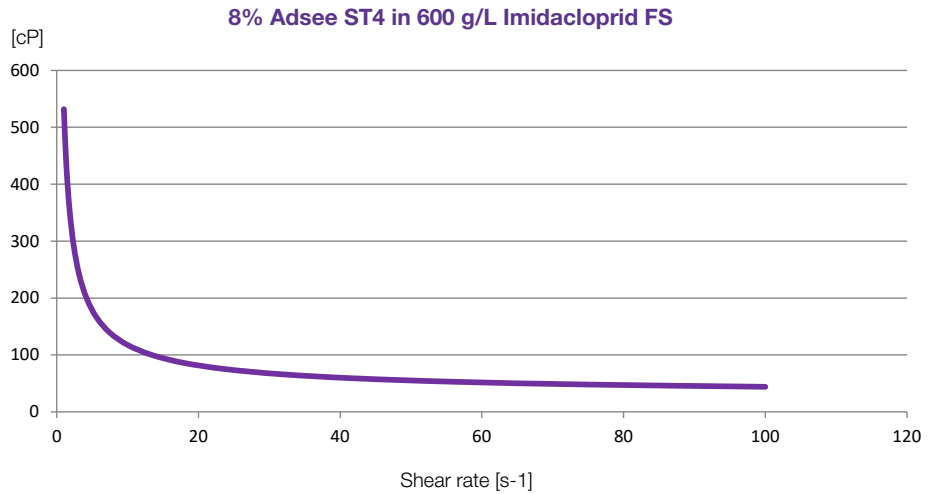




### In-can compatibility

Adsee ST4 is easy to incorporate into the FS formulation with low impact on rheology.

Viscosity graph below shows the shear thinning behavior when 8% Adsee ST4 was added in 600 g/L Imidacloprid FS.



### Flowability

#### Seeds coated with Imidacloprid

	No polymer	4% Adsee ST4
Corn	16.0 sec	14.2 sec
Oat	10.4 sec	8.4 sec
Soybean	8.0 sec	8.0 sec

Flowability was tested by measuring the time for a fixed amount of seeds flowing through a funnel. Adsee ST4 does not reduce flowability.

### Handling and use recommendations

- Low viscosity and easy to handle
- Can be incorporated in complex seed treatment formulations or used in the dilution water on-farm treatment
- Recommended dosage is 2-4 w/w-% in FS
- In dilution water the recommended amount of Adsee ST4 is 2-4w/w-% of the amount of FS that is used in the seed treatment
- Regulatory:
  - EPA approval under progress
  - A polymer and exempt from REACH registration

### Guide Recipe

#### Imidacloprid 600

- 600 g/l Imidacloprid 600
- 27 g/l Morwet D-425
- 12 g/l Ethylan NS500 LQ
- 44 g/l Adsee ST4
- 2,2 g/l antifoam emulsion
- 60 g/l blue dye
- 1,2 g/l xanthan gum
- 60 g/l propylene glycol
- water up to 1L



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