Alteration in starch structure
Starch Biosynthesis Pathway

- **Heat Stress**
- **Starch Synthase**
- **SBE**
- **AGPase**
Effect of heat stress on starch granules biosynthesis in C306 cv of wheat

Intact structure of starch granules in response to heat shock

Less number of starch granules
Effect of heat stress on starch granules biosynthesis in PBW343 cv of wheat

- Crumbling structure of starch granule
- Crack on granule structure because of heat shock treatment
- Deformation in starch granule structure
HEAT STRESS

Shrink led starch granules incase of PBW343 inside compartments

Un-structured starch granules inside compartments in C306

C306

PBW343
Starch granules in C306 cultivar of wheat (Heat stress + Putrescine 2.5mM)

- Bold granules
- Structured
- More in numbers
Starch granules in PBW343 cultivar of wheat (HS + Put 2.5 mM)

- Small granules
- Non compact and non circular
- Less in numbers
Effect of heat stress on membrane between aleuronic layer and starchy endosperm in C-306

Deformation in membranic structure because of heat shock treatment

Heat stress + Putrescine 2.5mM

No deformation was observed in membranic structure between aleuronic layer and starchy endosperm because of heat shock treatment
Future Line of Action

- Transcript profiling of HSFs
- Correlation of HSFs with the expression of HSPs
- Effect of polyamines on HSF expression and on thermotolerance capacity of different crops
- Characterization of pollen viability against heat stress and polyamines treatment