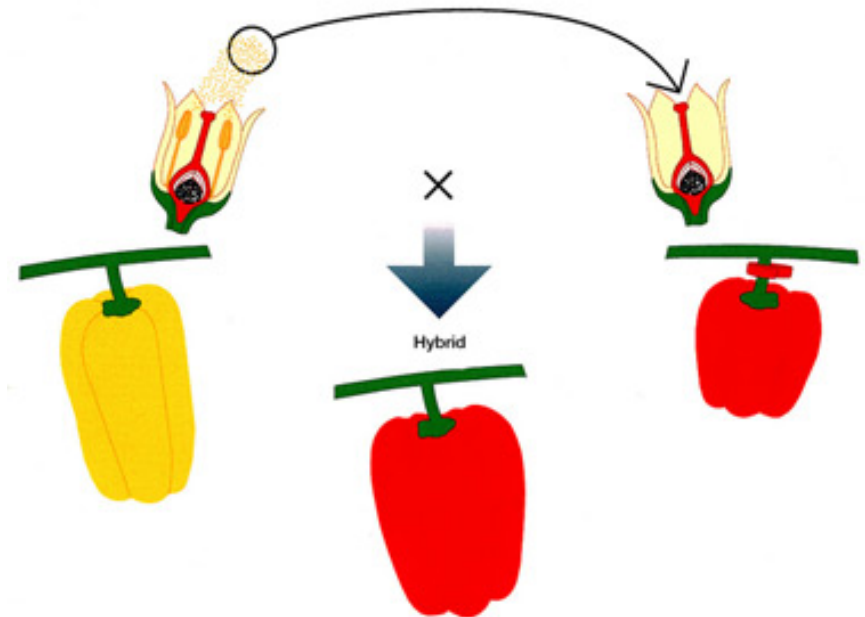


Developing a Cereal Fertility Pipeline (CerFip) for wheat and barley

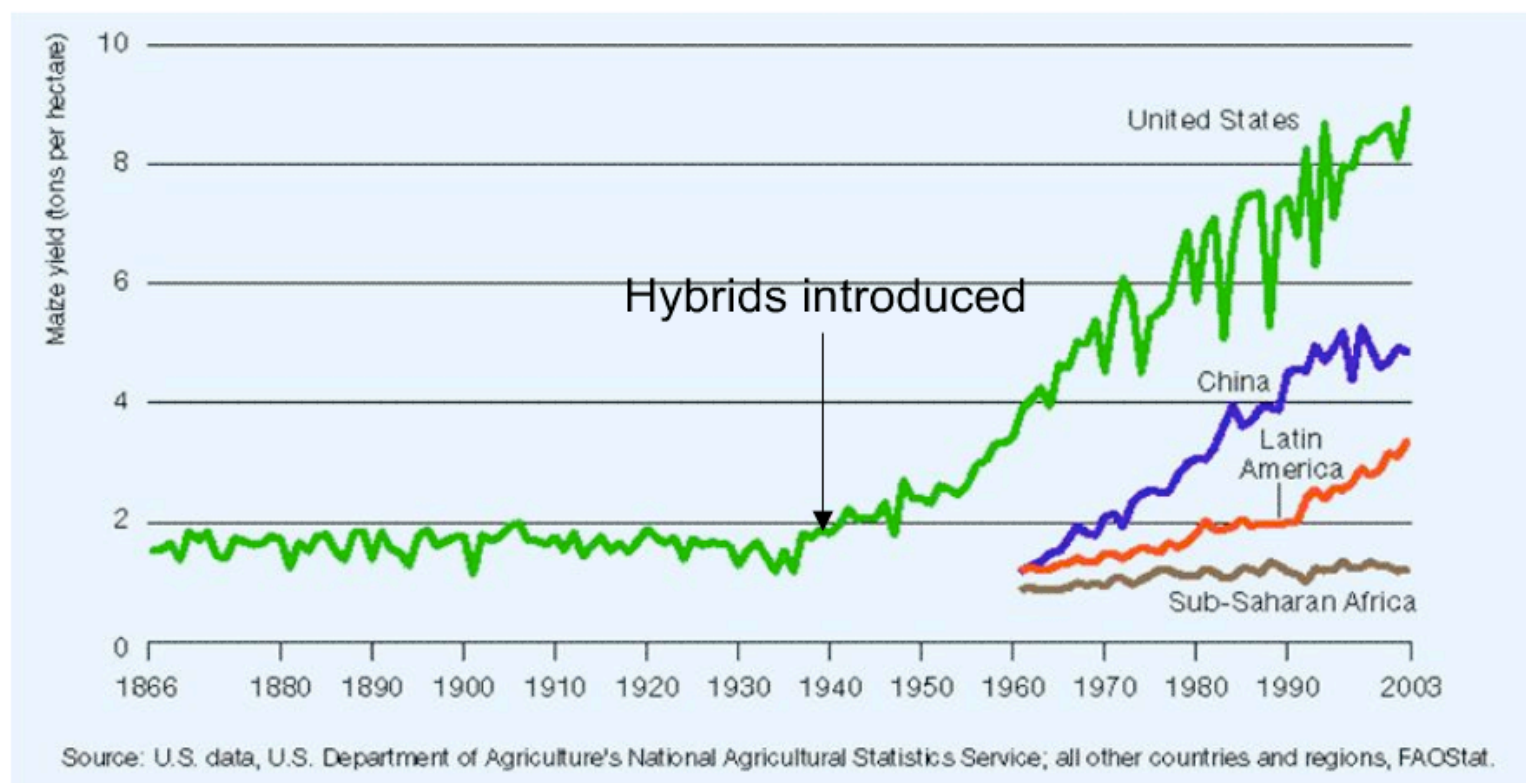


Commercial importance crop breeding.

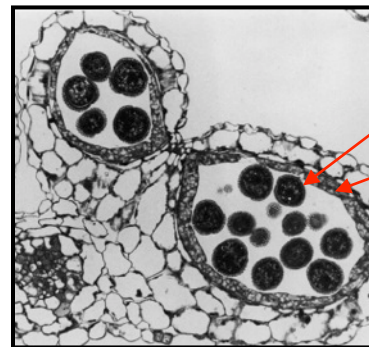
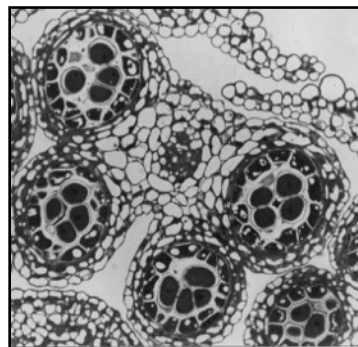
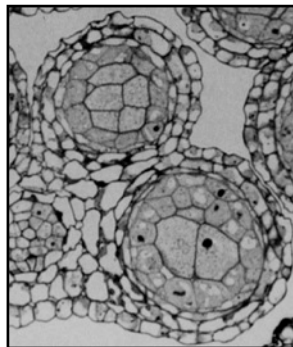
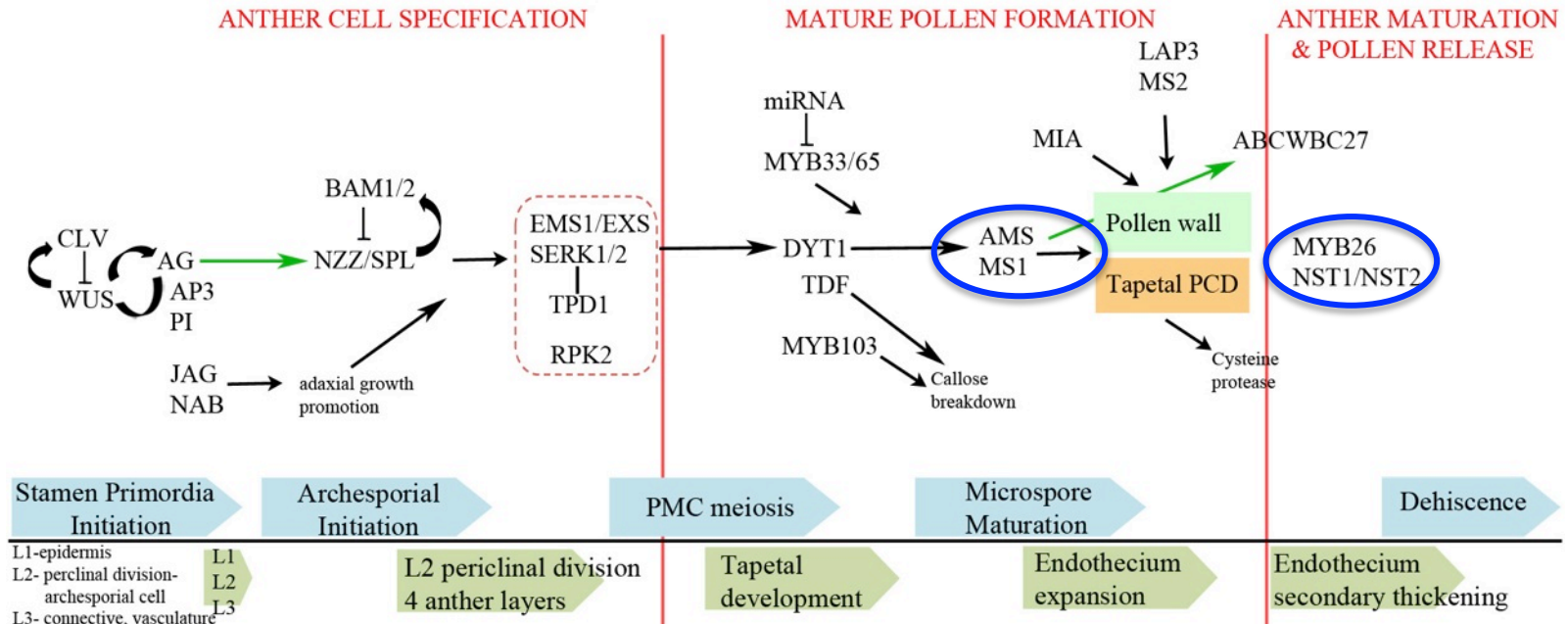
- F1 Hybrid production
 - Seed set
 - Control of pollen and release of GM plants
-
- Hybrids more vigorous 20-30% more yield
 - Hybrid seed production technology- Rice: 50 man-days/ha more labor than normal rice cultivation
 - Hybrid seed production
 - cytoplasmic
 - environmentally sensitive genetic male sterility in “seed” line
 - gametocides



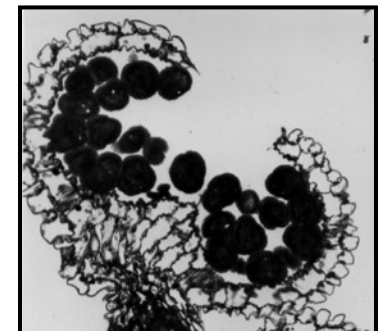
Changes in maize yield (t ha^{-1}) in USA, China, Latin America and SSA over time



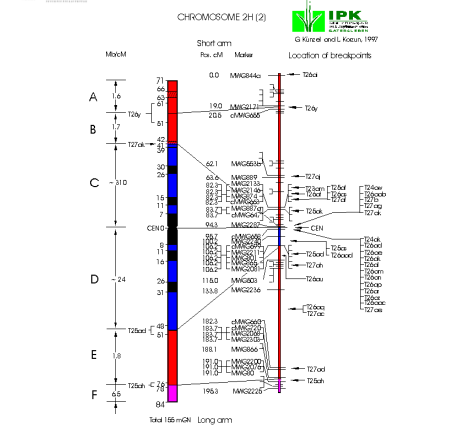
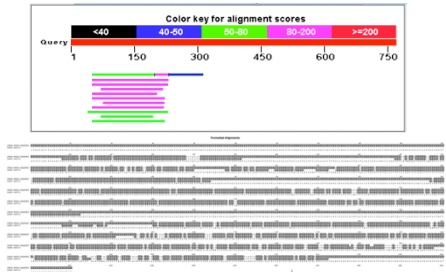
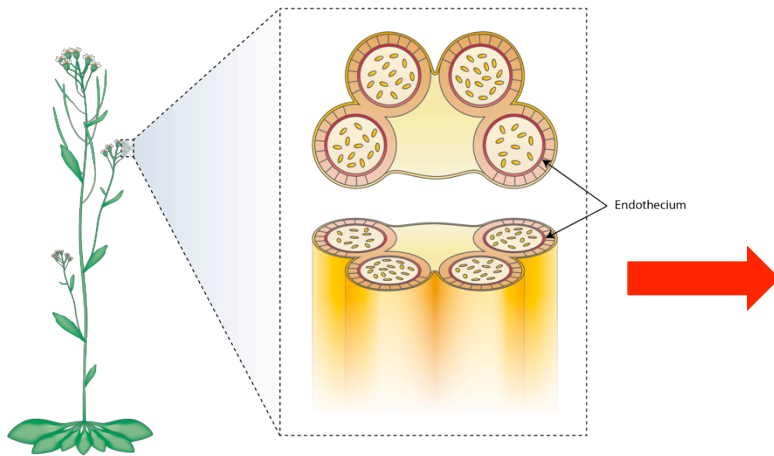
Arabidopsis Pollen Development Pathway



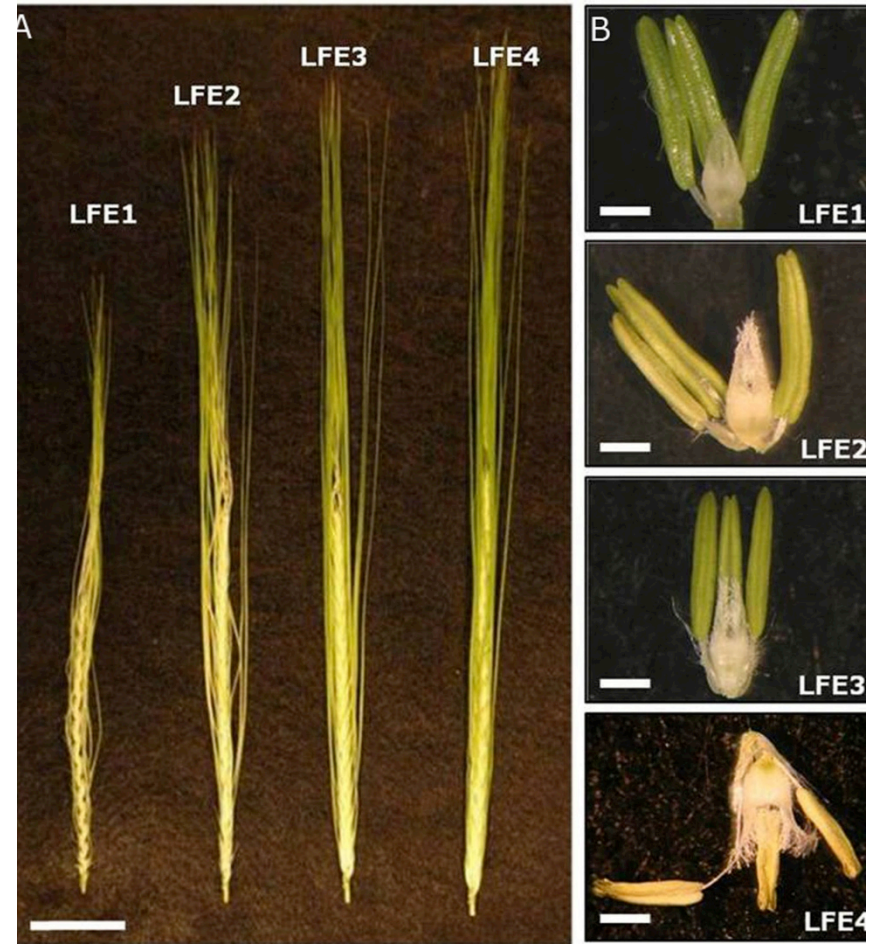
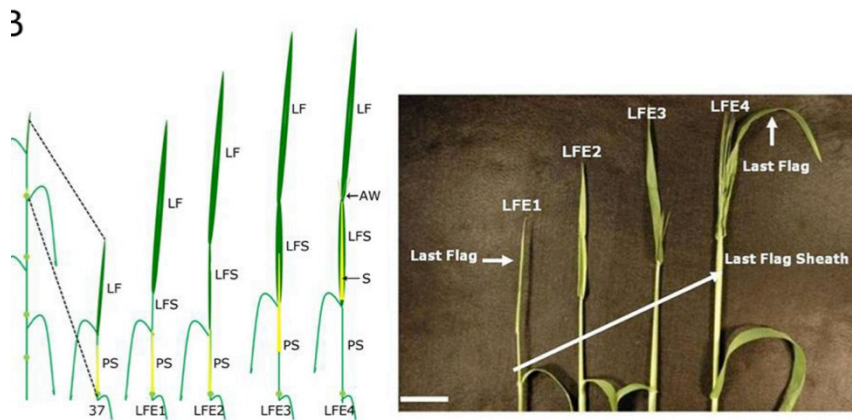
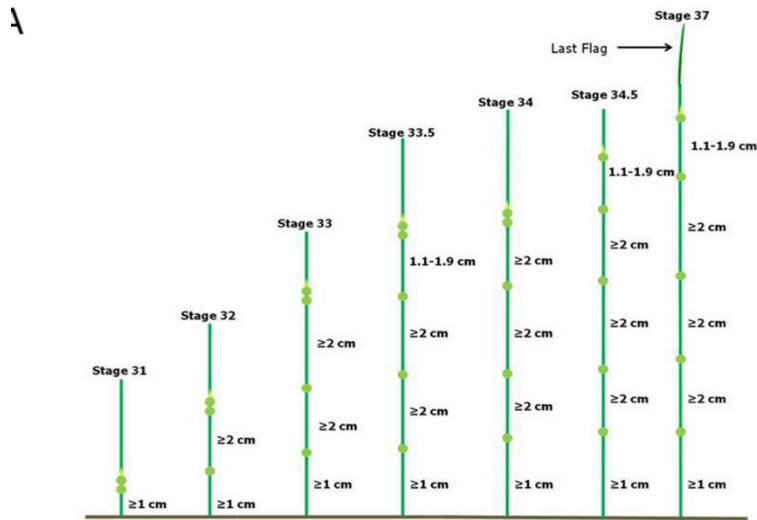
microspores
tapetum



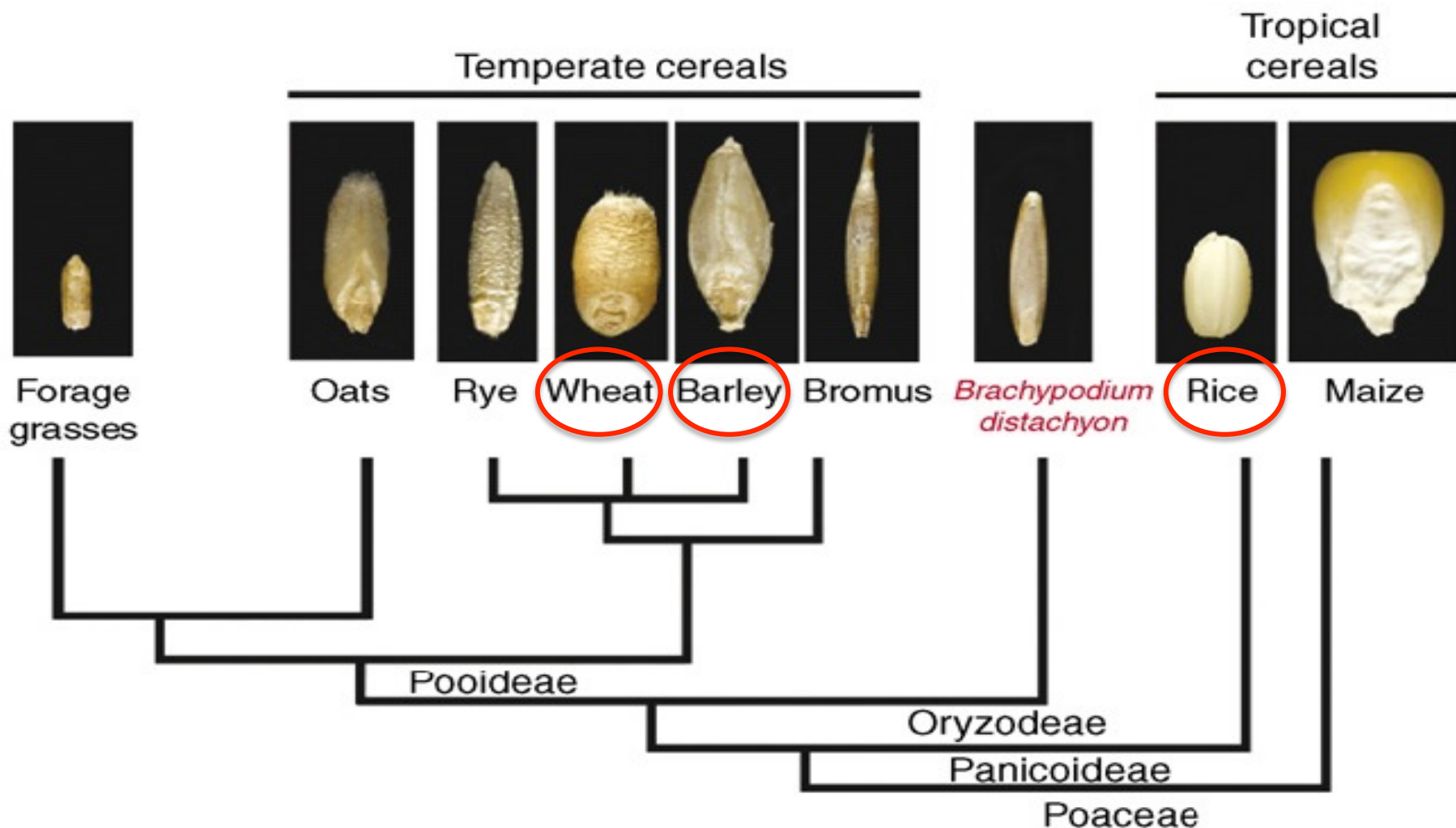
From Models to Crops



Non-Destructive Staging of Barley Reproductive Development



Brachypodium Model Plant



- To establish a pipeline for the transfer of intellectual understanding of gene regulation from the *Arabidopsis* and rice models into cereals.
- To characterise traits and develop germplasm for controlling male fertility in cereals, by applying knowledge from model plants to temperate cereals, for application in breeding programs.
- To develop inducible systems for switchable plant fertility for application in hybrid development.

CIRC: DEVELOPING A CEREAL FERTILITY PIPELINE (CERFIP) FOR WHEAT AND BARLEY

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Dr José Fernandez Gomez (PDRA)

Mr Behzad Talle (50% Technician)

- TILLING

