

BRAINSTORMING SESSION

Group B

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Feedback from Group B on Breeding Tools

Breeding tools

QTL, QTL alleles etc.

- Target trait introgression
- Elite background
- Multi donors (4-8 donors)
- Well characterised parents
- No yield penalty of target trait
- Fast way to reach homozygosity (DH, selection, etc)
- Gametophytic selection

ALLELE Specific (SNP) markers for MAS

- Whole genome profiling for multilocus selection
- Haplotype at 5-10 cM regions
- Good Maps for less developed crops

Improved varieties, including GMOs

- On case-by-case basis targeting field testing
- Encourage interactions GCP X large seed companies willing to share proprietary materials

MAS proven at field level

- Cost/effectiveness of the strategy/platform
- Target polygenic traits

Breeding lines with promising traits

- Ongoing GCP projects and tight collaboration with end-users (e.g., rice pyramiding lines)
- Refining genetic resolution of target regions and delivery of linked markers

Powerful experimental design for interacting QTLs

- Parallel experiments starting from F2 populations with/without selection
- User-friendly software for breeders for implementing *Breeding-by-design* based on cumulative marker/genetic information (see also data management)

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