A novel allele of OsCKX2 for high grain yield, strong culm, early maturity traits

- ✓ **A novel allele of the Cytokinin Oxidase/Dehydrogenase 2 gene (*OsCKX2*) was developed through a multiplex CRISPR/Cas12a genome editing in the background of elite Indica rice cultivar Samba Mahsuri.**
- ✓ **The novel allele of *OsCKX2* exhibits high grain number/panicle, early maturity, strong culm, complete panicle emergence, improved plant vigour and root system, enhanced tolerance to water and nutrients stress.**
- ✓ **Innovation (novel allele) has been protected through the Indian Patent Application No. 202311030876 A and an international PCT application PCT/IB2024/054133.**
- ✓ **The molecular markers have been developed and validated for the marker-assisted introgression of novel allele. The introgression of novel allele in more than 10 diverse genetic backgrounds using MABB suggested trait expression in all the genetic backgrounds.**

Salient Features & Advantages

✓ A single allele of a gene contributes multiple agronomically important traits

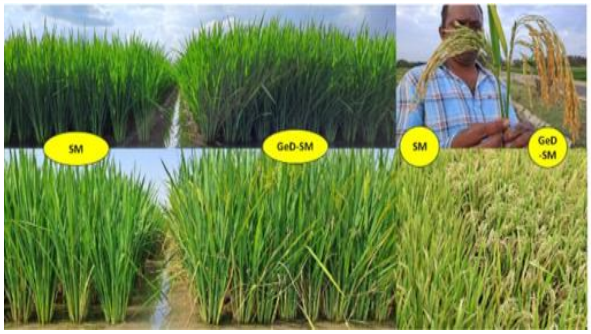
✓ Trait is expressed even in heterozygous state, hence highly suitable for enhancing the heterosis & improving the yield of hybrid seeds (by parental line improvement).

✓ Tested and validated in multi-location field testing for three seasons

✓ Environmentally safe and sustainable non-GM biotechnological solution

✓ Market preferred grain quality, suits farmers preferences for premium rice production

DRR Dhan 100 (Kamala) - *OsCKX2* edited Samba Mahsuri line released



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