

## Development of intron targeted markers for starch biosynthesis in wheat

Scientists at DBT's National Agri-Food Biotechnology Institute (NABI), Punjab mined the starch biosynthesis genes for development of Intron Length Polymorphic (ILP) markers and their subsequent utilization for genetic characterization of popular Indian wheat varieties and transferability to wild relatives. It was found that sixty-one markers generated 122 alleles, and showed 77–88.5% transferability to the related species.

A subset of markers showed clear genetic distinctions among Indian wheat varieties, signifying the importance of novel ILPs. 'Kenphad25' showed maximum genetic dissimilarity with 'K 8962' (0.82), while maximum genetic similarity was observed between 'Safed Lerma' and 'RAJ 4037' (0.1). This is the first report on ILP markers in wheat and will be a useful genomic resource for future germplasm conservation and molecular breeding studies.

The introns (noncoding sections of an RNA transcript) experience lesser selection pressure, thus are liable for higher polymorphism. The ILP markers designed from exon-flanking introns exploits this polymorphic potential and has been proved to be a robust co-dominant marker in eukaryotes. Wheat is among the most consumed cereal crop by majority of the world population, and is a rich source of calories in the form of stored starch. The scientific findings were published in the *Journal Molecular Biology Reports*.

### **Contact details:**

Dr. Joy K Roy (Sct-F)

E-mail: [joykroy@nabi.res.in](mailto:joykroy@nabi.res.in)