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### **SNP markers to study functional polymorphism in fatty acid desaturases of Indian sesame germplasm**

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Sesame (*Sesamum indicum* L) is one of the oldest and most nutritional oilseed crops whose fatty acid desaturase genes have been poorly understood. A germplasm collection of ninety nine entries comprising sesame (*Sesamum indicum* L) cultivars, landraces, introgressed lines and wild species were analyzed for the fatty acid compositions of their seed oil. The entries varied widely in their fatty acid compositions. Linoleic acid along with oleic acid comprised a major portion (86%) of total fatty acids. Moreover, we targeted 4.4 Mbp of the genomic DNA of sesame which comprises of stearyl acyl carrier protein desaturase (*sad*), fatty acid desaturase 2 (*fad2*) and omega 3 fatty acid desaturase (*o3fad*) genes in ninety nine accessions. SNPs and INDELS were found after aligning the sequences. These SNPs were associated to the fatty acid content using TASSEL. 245 associations were identified by GLM when including population structure in the analysis and controlling for multiple testing. Results of this study show that out of 245 only 30 SNPs (Single nucleotide polymorphism) were found to be associated to oleic, linoleic and linolenic acid content. Molecular breeders targeting for increase of particular fatty acid can use our data to genotype the population followed by marker assisted selection and genetic transformation. Genetic transformation of sesame with certain genes involved in fatty acid synthesis will provide a means to effect changes in oil composition.

#### **Biography**

Nupur Mondal has completed her MSc from University of Delhi and PhD from NBPGR, New Delhi. During her PhD, she has worked on molecular markers in oilseeds. She has worked in NRC Plant Biotechnology, a premier organization where she has worked in rice functional genomics.

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### **Laboratory diagnosis of typhoid fever using Widal and blood culture methods in Aba, southeastern Nigeria**

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The emergence of multidrug resistance strains of *Salmonella typhi* poses a big challenge to the eradication of typhoid fever. Typhoid fever shares similar transmission factors with malaria, and require careful and accurate laboratory diagnosis for effective treatments of patients. Increased request for Widal test as a quick diagnosis of typhoid fever has produced exaggerated results since typhoid fever and malaria often show mimicking symptoms even in laboratory diagnosis. The main objective of this study is to investigate the rate of infection of typhoid fever in Aba, southeastern Nigeria, using Widal test and blood culture methods. Widal and blood culture were carried out on all the samples. Out of 400 blood samples examined, comprising of 126 (31.5%) males and 274 (68.5%) females, 98 (24.5%) were tested positive for *Salmonella typhi* using the Widal test while the blood culture method only recorded 37 (9.3%). On age-related prevalence, the age bracket 31-40 years showed the highest prevalence rate for both methods with 23 (32.4%) for Widal test and 9 (12.7%) for blood culture method. Sex-related prevalence also showed that more males (34.9% and 11.1%) were infected with *Salmonella typhi* than females (19.7% and 8.4%) for Widal and blood culture methods respectively. It is therefore recommended that the assumingly high incidence of the disease using Widal test will be greatly reduced if blood culture technique is routinely adopted as a baseline for the diagnosis of typhoid fever.

#### **Biography**

Ezeigbo Obiageli Roseline has completed her PhD in Medical Parasitology from Imo State University, Owerri, Nigeria. She is presently a Chief Lecturer with Abia State Polytechnic, Aba, Nigeria. She has published over 30 papers in reputable journals.

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