the valley but not so now. By and large the cultivation is done with very low inputs and rarely with proper inputs and care, generally in those fields where other crops cannot be grown. Because of this reason, niger has great significance for the tribal people who can hardly afford the costly inputs.

The surveyed area is the highly dense forest of Satpura valley. This year the valley is facing a severe drought because of which the farmers' fields are affected severely. Niger oil is used for cooking, lighting, anointing, painting, cleaning machinery, pharmaceutical purposes and soap making. In Patalkot valley niger is the main cash crop. It is also a major part of their diet. With corn or mahua the niger is dry fried and after mixing thoroughly the tribals use this as a unique dish.

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Development and Management of DNA Fingerprinting Database

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Key Words: Database, Storage, Retrieval, DNA fingerprinting

DNA Fingerprinting technique provides unequivocal evidences for identification of specific genotypes, Enormous amount of DNA characterization data is generated during fingerprinting experimentation, which is difficult to manage manually. Large amount of molecular data is being generated at NRC on crop varieties and genetic stocks. But, there is no relevant computer software available to store and retrieve the data for comparison and analysis. Thus, it was found necessary to develop an application software to store this valuable information and to develop a retrieval system to access the information from the database.

Information Retrieval System is developed at NRC on DNA fingerprinting. This system is made in MS-Access 2000. The system can store as well as retrieve information from the data. Presently, this database is having data on banana, tomato, chillies and barley.

Following profile tables are available with this database.

1. Banana crop with AFLP technique. It has 107 varieties with 9 primers.

2. Chilies crop with ISSR technique. It has 38 varieties with 4 primers.

3. Tomato crop with RAPD technique. It has 30 varieties with 42 primers.

4. Barley crop with RAPD technique. It has 50 varieties with 20 primers.

Storage system: (1) Data entry form : This option is put in the database to enter new data. The various fields of the data entry form are – crop, family technique genus, species, subspecies variety, source, accession number, primer, NRC-id number, pedigree, and other details, (2) profile table of each crop, (3) morphological trait, (4) various gel pictures of different markers.

Retrieval system: Retrieval system of the database has six different choice options. They can be used to submit the choice of user in the database. These choice options are crop, technique, primer, variety, accession number and source.

1. *Open and modify profile table:* This option can be used to view profile table and also to modify it.

2. *Search:* This option is used to get detailed information of particular variety. Search option will present all the necessary information regarding the variety. This option can also inform about the presence, absence and total number of bands of particular variety.

3. *Jaccard's coefficients:* This is the most important option of the database. Jaccard's coefficients is able to give us report showing number of bands matched

and number of bands unmatched between two varieties. It also informs about the presence and absence of marker in a particular profile table. It informs about the primer and its variety showing minimum coefficient in comparison with all the other primers in the list.

Functions: (1) Calculates Jaccard's coefficients between two varieties; (2) calculates Jaccard's coefficients primer wise. In this case all the varieties of one primers are compared with all the varieties of other primer; (3) calculates Jaccard's coefficients with total markers.

In this case one variety is compared with other variety irrespective of primer.

The report generated by Jacarrd's coefficient has following fields: crop, technique, variety, primer, total number of records compared, field 1, field 2, availability of field1, availability of field 2, matched bands, unmatched bands, Jaccard's coefficients.

Print report: This option is used to get the detailed report. It can be used to get crop-wise, technique-wise, primer-wise, variety-wise information. It could also give report, if the choice is in combination.

Exploration for the Collection of Sesame (*Sesamum indicum* L.) Germplasm from Central Narmada Valley in Madhya Pradesh

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Key Words: Collection, Sesame, Madhya Pradesh

Sesame (*Sesamum indicum* L. syn. *S. orientale* L.) is one of the oldest oilseed crops and is under cultivation from ancient times (Joshi, 1961; Weiss, 1971). It is regarded as the "queen of oilseeds". probably because of its oil (about 50% of seed weight) resistant, to oxidation and rancidity when stored at ordinary ambient temperatures (Bedigrain and Harlan, 1986). The centre of origin of sesame is not certain. East Indies, India, the Middle East and Africa have been suggested as possible centres of origin (Nayar and Mehta, 1968). However there is no doubt about its antiquity in the Indian sub-continent. The charred *Sesamum* seeds have been recorded from Harappa (Ca. 3500-1700 BC) the oldest archeological site in the region.

Exploration for the collection of sesame (*Sesamum indicum* L.) germplasm from Central Narmada Valley or Bundelkhand region of Madhya Pradesh was undertaken by the Project Coordinating Unit (Sesame and Niger), Jawaharlal Nehru Krishi Vishwa Vidyalaya Campus, Jabalpur (MP) in October 2000. Random method of sampling with coarse grid survey was followed for the collection of samples mainly from farmers' field, threshing yards and farm stores. Mostly the emphasis was given for the collection of local types from the

interior/remote areas far away from the main roads. Due care was taken to avoid the repetition of samples. Mostly one sample was collected from a specific site or a village until and unless warranted by the apparent distinct types.

A total of 120 samples of divergent types of sesame were collected from about 120 sites in different habitats ranging from undulating plains of Narmada valley to hill tops and slopes of Satpura mountains. This region is known for its richness in diversity in both flora and fauna and lie between 77° to 80°E longitude and 21.9 to 23.6°N latitude. During the course of exploration, it has been observed that sesame is a typical crop of small holders, often grown under marginal or stress conditions. Due to change in the cropping pattern the sesame crop by and large, has been replaced by soybean in the surveyed area, mainly because of its low yield and high susceptibility to diseases and insect pests.

The collected germplasm represented variability in most of the important plant characteristics such as plant height, number of branches (from highly branched to mono stem type), number of locules/capsule, seed colour ranging from white, light brown to dark black, seed size (small to bold types). White seeded types are vernacularly known as *Tilli* or *Tili* and black seeded