

## Expression of Interest (EOI)

for

### The Development of a Database and a Machine Learning Tool

NIAB has sought expression of interest from registered Indian vendors for the development of Database and a Machine learning tool.

- ❖ The primary objective of the Database is to store genomic data and its retrieval. Following features are expected from the developed database:
  1. Database should be able handle and store large volume (12Tb) of sequence data
  2. Database should also store and display genotyping data
  3. Easy retrieval of dataset from database
  4. The database should be equipped with various bioinformatics tool such genome viewer, blast, and other tools.
  5. Linux/Unix environment will be preferred for supporting and hosting the database. However, Vendors can propose for windows environment as well.
  6. Finished database should allow for easy manipulation by in-house staff to ensure quick & better maintenance
  7. FTP or similar models should be incorporated to cater the data to different parts of globe on obtaining necessary credentials
  
- ❖ The primary objective of the machine learning tool is to classify the samples using genotyping data. Machine learning method will be applied on genotyping data to develop models for classify different breed of cattle. Following features are expected from tools:
  1. Tool must integrate fast and accurate machine learning methods such as SVM to classify the genotyping data into different class.
  2. There are 43 breeds of cattle and ideally tool should have classifier to differentiate 43 class.
  3. Genotyping data of all control sample (true class) will be provided to train the machine.
  4. Any sample genotyped with same SNP-Chip should be classified correctly
  5. The tools should be integrated or hosted with database and support online analysis.

**Important Note:**

1. The Interested vendors can propose the detailed solutions to fulfil the objectives
2. Solutions can be mailed at [ict@niab.org.in](mailto:ict@niab.org.in) while CCing to [purchase@niab.org.in](mailto:purchase@niab.org.in), [sarwar@niab.org.in](mailto:sarwar@niab.org.in), [ravigandham@niab.org.in](mailto:ravigandham@niab.org.in)
3. The Interested vendors can directly contact Sarwar Azam- 8374010292 or Dr. Ravi Gandham-9458687850
4. Last date of showing interest is 27/12/2020
5. Shortlisted vendors will be called for presentation/discussion at NIAB.