

Improvement of Vegetable Crops through Biotechnological Interventions- Network Projects for Consideration by DBT

1. Department of Biotechnology has been supporting research and technology development in the area of horticulture crops. Vegetable crops need special emphasis in view of their importance both in terms of nutritional security and economic development. Department of Biotechnology organized a brain storming session on “ **Improvement of Vegetable Crops through Biotechnological Interventions**”. Sr. Scientists, researchers, academicians and representatives of the industry participated to discuss priority vegetable crops for immediate biotechnological interventions, targeted to specific traits. A large list of vegetables was identified, however this was short listed in view of following criteria:

- Ø National and economic importance
- Ø Social relevance
- Ø Specific traits which need to be addressed
- Ø Biotechnological interventions required
- Ø Present status of research

2. Accordingly the Category-I and Category –II of identified priority vegetables along with the specific traits to be targeted are as follows:

Category-I			Category-II	
	Vegetable	Identified problems	Vegetables	Identified problems
1.	Brinjal	Borer, Bacterial wilt	Cabbage & Cauliflower	Diamond blacke moth
2.	Potato & other tuber crops (cassava & sweet potato etc)	Late blight, bacterial wilt, viruses and Quality –reduction in sweetening during cold storage	Chilly / hot pepper	Viral diseases
3.	Onion	Fungal diseases	Leguminous vegetables (french bean, cow-pea etc)	Aphid
4.	Okra	Viral Diseases	Cucurbits (cucumber, bitter gourd)	Fruit fly, fungal and viral diseases
5.	-	-	Amaranthus	Oxalate
6.	-	-	Carrot	Nutritional quality

- i. It was agreed that for the proposed network only indigenous genes and constructs would be used to avoid any IPR problem.
3. The following Institutes were identified as having strength in providing genes/ constructs etc:
 - Ø University of Delhi, South Campus (UDSC)
 - Ø National Brain Research Institute (NBRI)
 - Ø Indian Institute of Horticulture Research (IIHR)
 - Ø National Centre for Plant Genome Research (NCPGR)
 - Ø Indian Institute of Science (IISc)
 - Ø Madurai Kamraj University (MKU)
 - Ø Indian Agriculture Research Institute (IARI-NRCB),
 - Ø Institute of Himalayan Bioresource Technology (IHBT)
 - Ø Central Potato Research Institute (CPRI)
4. Scientists/Institutes working in the relevant areas may develop crop specific networks on Category-I of the identified vegetables. Public private partnership under the DBT-SBIRI schemes may also be explored. 10 copies of the concept proposal may be submitted latest by **15th January 2006** to:

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