# GOVERNMENT OF INDIA
# AGRICULTURE
# LOK SABHA

UNSTARRED QUESTION NO:932
ANSWERED ON:27.02.2006
POPULARISATION OF TISSUE CULTURE AND BIO -TECHNOLOGY BASED AGRICULTURE
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**Will the Minister of AGRICULTURE be pleased to state:**

(a) whether the Indian Agriculture is lagging in technological advancement and production per hectare in comparison with developed countries;

(b) if so, the details thereof and the reasons therefor;

(c) whether the Government has any action plan to popularize tissue culture, development of bio-technology based agriculture; and

(d) if so, the details thereof?

## Answer

THE MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE (SHRI KANTI LAL BHURIA)

(a) & (b): India`s rankings in area and total production of major crops in comparison with developed countries are quite encouraging, however, the productivity of important food crops like rice and wheat is quite low as compared to the developed countries (Annexure I & II). In India the rainfed agriculture with low inputs covering over 60 percent of area is largely responsible for lower crop productivity averages at the national level. The productivity of irrigated areas with optimum level of input management, however, is relatively high. Low water productivity, less area under hybrids and varieties of crops with high yield potential, untimely availability of inputs, lack of credit, poor post harvest processing and value addition and lack of mechanization etc. are some major reasons for low productivity.

(c) & (d): Yes, Sir. Already tissue culture and application of biotechnology for productivity enhancement and disease diagnostic and management of crops, livestock and fish are under way at the various ICAR research institutes and State Agricultural Universities. Development of human resource through training in specific areas in the world class national and international laboratories has been undertaken. ICAR along with the Department of Biotechnology, Government of India, have been supporting research in all areas of biotechnology. India has also contributed in International efforts in rice genome sequencing. Some of the important new initiatives are as under:-

# ICAR has sanctioned a network project entitled `Transgenics in Crops` to intensify research on development of transgenics to increase yield and quality in 14 crops during two years (2005-2007) of X Five Year Plan with an outlay of Rs.32.55 crores.

# A network project on Molecular Breeding Comprises 14 projects including horticultural crops viz., rice, wheat maize sorghum, pigeonpea, soybean, potato, banana, grapes, tomato and sugarcane has been approved as A.P. Cess fund scheme with an outlay of approximately Rs.2.41 crores.

# A special project on pyramiding of genes for resistance against biotic stress in rice, wheat, maize, chickpea, tomato implemented using molecular marker selection process. The total cost of the project is Rs.195.26 lakhs and is implemented at 12 Centres.

# A Network Project on Hemorrhagic Septicaemia, a Network Project on Gasto Intestinal Parasitism and a Network Project on Bluetongue Disease have been initiated for diagnostics and vaccines.

Annexure-1: India`s global ranking in major crops

| Crops | Area | Production | Productivity |
|---|---|---|---|
| Rice | 1 | 2 | 52 |
| Wheat | 1 | 2 | 38 |
| Coarse Grain | 3 | 4 | 125 |
| Pulses | 1 | 1 | 138 |
| Oil crops | 2 | 5 | 147 |

Annexure-II: Area and productivity of rice and wheat (2004) and fertilizer consumption (2002-03) in different countries

| Country | Area (in ha) | | Productivity(t/ha) | | Fertiliser consumption (kg N+P205+K20) |
|---|---|---|---|---|---|
| | Rice | Wheat | Rice | Wheat | Rice+Wheat |
| France | 0.021 | 5.2 | 5.6 | 7.6 | 13.2 215.1 |
| Japan | 1.65 | 0.22 | 6.9 | 3.8 | 10.7 157.7 |
| USA | 1.30 | 20.3 | 7.6 | 2.9 | 10.5 109.6 |
| India | 42.5 | 27.3 | 2.9 | 2.6 | 5.5 99.7 |