

Highlights of the address by Dr. Gurbachan Singh, Chairman, ASRB and Chief Guest on the occasion of 28th Foundation Day of the Directorate on 22 April, 2016

I greet all the staff members of the Directorate on the special occasion of the 28th Foundation Day of the Directorate:

- This institute is quite dear to me as I came here quite frequently when holding the post of ADG (Agronomy) during 2001-2004.
- This day provides us an opportunity to analyze the achievements made over the years and set targets for the coming year.
- We also need to recognize the outstanding contributions of the workers including the farmers who brought recognition to the institute.
- There has been a sea change and total transformation in this institute. It is a great pleasure to see the transformation brought out in the recent years.
- A research farm with 300% cropping intensity and zero-till cultivation of all the crops is a unique distinction acquired by this institute.
- Weed science research is becoming more and more demanding, and we need to increase the input-use efficiency through weed management.
- Directorate had done outstanding work on mapping of weeds in 435 districts, developing a weed identification kit and technologies for weed management in various cropping systems.
- Praise-worthy work has been done on herbicide residues in soil, water and plant system.
- Weeds are not only waste plants but can be used for compost making. This Directorate has done commendable work on this aspect as well.
- Our country has touched a food production of 265 million tonnes, and moved from a situation from begging bowl to an exporter.
- To keep pace with the rising population, we need to increase foodgrain production by 8-10 million tonnes per year.
- We lag behind in the production of pulses. Weed management in pulses especially in *kharif* season should be focused. Shortage of pulses can be overcome to a great extent through adoption of weed management technologies.



- Weeds cause losses in yield by 5-80% in various crops, which is major constraint for improving productivity.
- Farmers are losing interest in agriculture, and it is big challenge for the scientists to increase profitability and keep the farmers especially youth engaged in agriculture.
- We must develop technologies which result in a minimum net profit of Rs. 1.0 lakh per ha.
- Integrated farming system involving dairy, horticulture and other enterprises is the requirement of farmers for the future.
- Weed management in the farming system mode is an issue which should be addressed.
- Climate change, water and energy are the global issues, and their management is of utmost importance.
- For climate resilient agriculture, integrated farming system is the answer.
- National Agroforestry Policy emphasizing on multi-purpose species along with crops has been formulated by the Government.
- We are gradually moving towards quality conscious society, and for this, a quality produce free from weeds is essential for export as well as domestic purposes.
- India receives on an average 1 m rainfall but still there is a drought like situation in some parts of the country.
- We need to study the weed dynamics under different systems of irrigation and water supply like sprinkler, flood and drip irrigation system.
- India has 120 million ha of wastelands, which are infested with weeds. These lands can be developed through agroforestry, which is also essential for tapping methane, CO₂ and other GHGs for mitigating the global warming effects.
- Scientists must work with the farmers and bridge the yield gap.
- Weeds are going to be a major issue in the climate change scenario.
- Plan permanent experiments in large plots comprising all the crops of the region with conventional and CA technologies. Record all pertinent data involving scientists of different disciplines. Correlate the data recorded with the prevailing weather conditions.
- Weed shifts should be monitored due to the changing cropping practices and climate change. Study biology of the new weed species.

- *Polygonum monspeliensis* which was not a serious weed in the 1970s has now become more important than *Phalaris minor* in some areas of sodic soils of Punjab and Haryana. CIMMYT has now taken note of this weed emerging in wheat fields.
- Scientist must do pro-active anticipatory research which is problem-solving, result-oriented, farmer-centric and farmer participatory in a network mode.
- Advances made in biotechnology and nanotechnologies should be utilized for managing weeds.
- Weeds are growing in non-cropped areas, lawns and golf courses also, which may also be addressed.
- Work on biological control of *Parthneium* has achieved limited success as the weed is fast spreading.
- Undertake research on weed management in organic farming systems, which are fast emerging as a priority area.
- Weeds problems are likely to be more complex in future. Work in a collaborative mode with all stakeholders.
- Spurious pesticides including herbicides are a serious issue with the farmers. This Directorate should also play its meaningful role in this regard.

At the end, I again congratulate all the staff of the Directorate on the 28th Foundation Day, and wish you all success in future endeavours.