

**GOVERNMENT OF INDIA
AGRICULTURE
LOK SABHA**

UNSTARRED QUESTION NO:1831

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ADVERSE IMPACT OF CHEMICAL FERTILISERS

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Will the Minister of AGRICULTURE be pleased to state:

- (a) whether the Government has recently conducted a study to assess the adverse impact of chemical fertilisers on soil, water and other natural resources in the country;
- (b) if so, the outcome thereof;
- (c) the States/UTs where the adverse impact has reduced the agricultural production during each of the last three years; and
- (d) the remedial steps taken/proposed to be taken by the Government in this regard and the success achieved so far?

Answer

MINISTER OF STATE IN THE MINISTRY OF AGRICULTURE AND FOOD PROCESSING INDUSTRIES (SHRI TARIQ ANWAR)

(a) to (c): There is no scientific evidence of declining soil/crop productivity from judicious use of chemical fertilisers. However, indiscriminate and imbalanced use of fertilizers coupled with low addition of organic matter over years may result into multinutrient deficiencies and deterioration of soil health.

Indian Institute of Soil Science, Bhopal under AICRP on 'Long-Term Fertilizer Experiments' is monitoring the soil fertility in different soil types (fixed locations) under dominant cropping systems. The investigation over the last few decades indicated that continuous use of nitrogenous fertilizer alone produced the highest decline in crop yields at almost all the centres and had deleterious effect on long term fertility and sustainability in particular, showing deficiencies of other major and micro nutrients. Even in NPK fertilized system, the deficiency of micro and secondary nutrients has become yield limiting factors after a number of years and their application becomes necessary to sustain high yield potential. Only integrated use of optimal dose of NPK and organic manure maintained sound soil health and gave higher sustainable crop yields.

There is also possibility of nitrate contamination in ground water due to excessive use of nitrogenous fertilizers particularly in light textured soils that has consequence on human/animal health if used for drinking purpose. Recently, nitrate contamination in ground water in Punjab has been reported. However, as per information received from PAU Ludhiana, the NO₃-N in the underground water of the state of Punjab was generally less than the permissible limit.

(d): Government is advocating soil test based balanced use of fertilizers in conjunction with organic sources of plant nutrients like Farm Yard Manure (FYM), Compost, bio-fertilizers and green manuring.

National Project on Management of Soil Health & Fertility (NPMSH&F) /has been taken up from 2008-09 to promote soil test based balanced and judicious use of fertilizers through setting up/ strengthening of soil testing laboratory, trainings and demonstrations on balanced use of fertilizers.

In addition, split application and placement of fertilizers, use of slow releasing N-fertilizers and nitrification inhibitors, growing leguminous crops and use of Resource Conservation Technologies (RCTs) are advocated by Indian Council of Agricultural Research (ICAR). The ICAR also imparts training, organizes frontline demonstrations to educate farmers on these aspects.