

ing precious agriculture land and rivers taking a large acreage, soil and land on their banks.

- Mining and submersion of land due to dams and even division of land among families created bunds, which go as unproductive field fences and which further reduce cultivated area. Arable land is shrinking. This land is permanently lost.
- Climate change, rise in temperature, deteriorating soil health due to soil-borne pests/indiscriminate use of fertilizers, air pollution (gases, inert particles) due to mining and industries are all responsible for low productivity and poor harvest.
- Use of underground water (tube wells) for growing high water demanding crops, e.g. sugarcane and paddy which reduce crop area of wheat and even other crops that require less water.
- Promoting cultivation of medicinal and aromatic plants by the Government and other agencies reducing area of staple food crops. *Jatropha*, a wasteland shrub (in the name of bio-diesel), is now being cultivated on productive land.
- Poor functioning of co-ordinated research projects which were started with very novel concepts but with lack of proper technical staff, frequent shift of staff on the pretext of administration, no time frame, and repetition of research programmes all thwarted the progress of most

projects. After import of wheat, all our claims of farm research are under a cloud.

- In most of the cases, breeding is replaced by selection. Every time testing of fertilizer for each variety, poor attention/breeding for endemic/pest problem and no in-depth study have created big gaps in basic research.
- Universities are the backbone of basic and applied research but posts are lying vacant due to retirement or ban by the state Governments on recruitment or in the name of 'backlog'. This has created a vacuum in research. The greying faculties are overburdened due to introduction of new courses and teaching load; as a result, the research has taken a 'back seat'.
- Research is further hampered due to delay in project sanction, late release of grant, long chain of sanctioning formalities, bureaucracy at every step, delay in appointment of subordinate staff and no accountability. These are reasons for malfunctioning of the projects.
- The system is suffering losses by not making use of trained young workers; instead private companies are recruiting them in thousands for their profit-making export ventures. On the other hand, poor farmers suffer due to lack of proper technical guidance leading to, as a result, incidences like mass suicides in Vidarbha.

- Most fertilizer recommendations for crops are based on old soil surveys without soil test values, as soil-testing laboratories have no technical staff and chemicals.
- Poor farmers are not getting the advantage of crop insurance. Several problems, which disturb the farmers include minimum support price, bad road/transport facilities, nonavailability of electricity at crucial time, bank loans at high interest rates and meagre help from the Government/officers.
- The country is passing through a very tough time by aging politicians with poor vision, greying laboratories, bureaucracy at every step, technological gap, poor research planning pushing rusted research projects, no attention being paid to real problems, no alternative/insurance to farmers committing suicide. The problems are before us but planners are shirking the solutions. Under these circumstances, do you believe in a second green revolution?

N. D. SHARMA

21, Kundan Residency,
Mandla Road,
4th Mile, Tilahari,
Gauraiya Ghat via RFRC,
Jabalpur 482 021, India
e-mail: ndsfungi@yahoo.co.in

Mango – A new record for *Helicoverpa armigera* (Hubner)

Mango (*Mangifera indica* Linn.), belonging to the family Anacardiaceae, is an important tropical fruit crop. Being delicious and succulent, it is known as the king of fruits.

Despite the large area coverage of mango under a number of varieties, the productivity of mango in India is rather low. This might be attributed to ravages inflicted by a variety of insect pests.

Over 400 species of insects have been reported to infest mango crop¹. Among these, leaf hoppers, stem borers, stone weevil and fruit flies are known to cause economic loss. Recently, *Helicoverpa armigera* (Hubner) was recorded in most severe form, in mango orchards of

Dharwad taluk and adjoining Kittur area, Belgaum District, Karnataka, India.

H. armigera is a polyphagous pest, which is known to attack more than 200 host plants all over the world. The pest was noticed in old orchards (12- to 15-year-old plants). Activity of the pest was restricted to only reproductive parts, i.e. inflorescence and small fruits with larvae feeding on inflorescence leading to poor fruit set. Also, small fruits were partially fed by the larvae. The infestation level was to the tune of 30–40% and on an average each inflorescence had 0.75 to 1 larva. Since no annual host crops were found near the orchard, it is felt that infestation was due to migration population

of *H. armigera*. Breeding studies on mango are in progress.

1. Tandon, R. L. and Varghese, A., *Tech. Bull. Indian Inst. Hortic. Res.*, 1985, 5, 22–26.

S. M. BHARATI
K. P. GUNDANAVAR*
R. S. GHIRADDI
J. S. HILLI
B. C. KAMANNA
R. A. BUDHIHAL

Krishi Vigyan Kendra,
Saidapur Farm, MARS,
University of Agricultural Sciences,
Dharwad 580 005, India
*e-mail: kpg2006@rediffmail.com