Eggplant, better known locally as brinjal, is a staple part of a typical Indian diet and a sure source of income for thousands of resource-poor farmers. Eggplant is affected by a single major yield-limiting insect pest known as the fruit and shoot borer (FSB) which reduces marketable fruit yield up to 70 per cent. As a result, farmers naturally tend to resort to indiscriminate spraying of insecticides (as many as 60 times in a cropping season of 5-6 months) and this excessive usage is hazardous not only to the farmer’s health but also detrimental to the non-target beneficial insect population and the environment as well. Most attempts to develop resistant cultivars through traditional plant breeding met with little success due to the lack of innate resistance in genetic resources against FSB.

With a view to developing FSB-resistant GM versions of eggplant, TNAU, under the aegis of Agriculture Biotechnology Support Project in partnership with Cornell University which was duly approved by the Government of India (Department of Biotechnology), converted a few of the popular eggplant lines into respective Bt-eggplant open-pollinated versions. These Bt-eggplant varieties expressing cry1Ac gene (which was kindly provided by M/s Mahyco, a leading private seed industrial house) have been promising against FSB in field studies conducted with due permission from the apex regulatory body of the country Genetic Engineering Appraisal Committee. These Bt eggplant lines are in varietal background and hence the farmers can naturally save the seeds for their future sowings. Though the varieties developed in this project would sure benefit thousands of resource-poor farmers, a moratorium has been imposed upon by the Government of India. Relevant regulatory challenges and the prospects of an early approval of the technology for use by the farmers are discussed in this presentation.

Keywords: Bt eggplant, Bt brinjal, Fruit and Shoot borer resistance, Open pollinated varieties