live mint

Wed, May 18 2016. 08 35 PM IST

No evidence that genetically modified crops unsafe to eat: US report

The report found no links between genetically modified crops and cancer or diabetes, nor did it find any harm had been done to monarch butterflies

A file photo shows a handful of GMO soybeans. The findings issued by the US National Academies of Science examined two decades of research on genetically engineered crops. Photo: AFP

Miami: A sweeping review Tuesday of research on genetically modified crops found no evidence that they are unsafe to eat, but warned that pest and weed resistance could pose serious problems.

The findings issued by the US National Academies of Science examined two decades of research on genetically engineered (GE) crops, as they are also known, and called for regulators to take a closer look at the final product of a new plant variety, rather than the process used to breed or engineer it.

“We dug deeply into the literature to take a fresh look at the data on GE and conventionally bred crops,” said committee chair Fred Gould, co-director of the Genetic Engineering and Society Center at North Carolina State University.

Gould acknowledged that the wealth of data and opinions on the controversial matter “had created a confusing landscape” and that the new report aimed to offer an unbiased review of the evidence.

The committee of more than 50 scientists looked at almost 900 research and other publications on genetically engineered characteristics in maize (corn), soybean, and cotton—representing the vast majority of commercial crops to date.

“While recognizing the inherent difficulty of detecting subtle or long-term effects on health or the environment, the study committee found no substantiated evidence of a difference in risks to human health between current commercially available genetically engineered (GE) crops and conventionally bred crops, nor did it find conclusive cause-and-effect evidence of environmental problems from the GE crops,” said the report.

However, it urged regulators to submit new plant varieties to “safety testing—regardless of whether they were developed using genetic engineering or conventional breeding techniques.”

The report also found that “evolved resistance to current GE characteristics in crops is a major agricultural problem,” including both insect and weed resistance.

It cited many locations in which weeds have evolved resistance to glyphosate, the herbicide to which most biotech crops were engineered to be resistant.

The report found no links between genetically modified crops and cancer or diabetes, and no association “between any disease or chronic conditions and the consumption of GE foods.”

Biologists have used genetic engineering since the 1980s to produce fruit that can last longer on store shelves, have higher vitamin content and be more resilient against common diseases.

The only genetically engineered characteristics that have been put into widespread commercial use are those that allow a crop to withstand the application of a herbicide or to be toxic to insect pests.”

The report pointed to some evidence that insect-resistant biotech crops have actually boosted human health by cutting back on insecticide

poisonings.

According to Gregory Jaffe, biotechnology director at the Center for Science in the Public Interest, a consumer group, the report is “thorough and comprehensive” and it should “give consumers confidence about the safety of eating foods that have those ingredients.”

The committee also found “no conclusive evidence of cause-and-effect relationships between GE crops and environmental problems,” according to the report.

Nor did it find any harm had been done to monarch butterflies as a result of such crops, an oft-cited concern in some quarters.

Economically, engineered soybean, cotton, and maize have “generally had favourable economic outcomes for producers who have adopted these crops, but outcomes have varied depending on pest abundance, farming practices, and agricultural infrastructure.”

But the study found that genetically modified crops had not changed the rate of increase in yields among US farmers of soybean, cotton, and maize over time.

Gould said this finding was something many on the committee had “scratched their heads about,” since it opposed a long-held belief that such crops would boost farmers’ output.

According to David Ervin, professor emeritus of environmental management and economics at Portland State University, who was not involved with the report, “a major contribution is the report’s admonition that current regulation of GE crops has not kept pace with science.”

Another outside expert, Wayne Parrott, professor in the department of crop and soil sciences at the University of Georgia, said the report offers a “sober assessment.”

“The inescapable conclusion, after reading the report, is that GE crops are pretty much just crops,” he said.

“They are not the panacea that some proponents claim, nor the dreaded monsters that others claim.”