BioSpectrum the business of bioscience

GM Mustard can enable domestic reliance in edible oils

It is important to note that anti-GMO activists who are opposing GM mustard, a hybrid variant of mustard are up against a team led by Dr. Deepak Pental, noted geneticist and former Delhi University vice-chancellor. Dr. Pental's project on-going for over 16 years has been funded by the university and the National Dairy Development Board (NDDB), which, at one time, was entrusted with ensuring self-sufficiency in cooking oil through the Technology Mission on Oilseeds and Operation Dhara. This is an entirely indigenous effort.

Is GM Mustard important? Is it needed? And who will it benefit? Let's take a look at the big picture first. In 2013-14, for which data is available, India imported 14 million tonnes of cooking oil for a staggering US$10 billion or Rs 66,000 crore. Edible oil is by-far the biggest item of food import and also makes India the largest importer of edible oils in the world. Edible oil is also the third largest import after crude oil and gold. It is remarkable to the extent to which imports have risen - from 4.4 million tonnes in 2003-04 to 14 million tonnes in the current year. But until 2007-08, India's edible oil production exceeded its imports. It is after that the Unfortunately as our import dependency goes up (from 30 percent to nearly 70 percent in the last few years) there is no silver lining in sight (unlike in global crude oil prices where prices dropped and continue to remain low). Massive imports have driven down Indian soybean prices by 20 percent in four months, discouraging farmers from expanding oilseed area. But despite this, local soyoil is still 50 percent costlier than imported palm oil. Despite the recent increase in import duty by the government, oilseed cultivation is not profitable for the Indian farmer.

India needs to therefore increase the productivity of all oilseeds in every possible manner. The twin-pronged advantage is that the import bill goes down and the Indian farmer benefits. GM mustard is an initiative towards this. Dr. Pental's version of the hybrid seed will yield 20-30 per cent more crop. Increased yields will reduce the price of mustard oil and relieve the oil shortage. Like with Bt Cotton, where India went from a net importer to one of the world's largest exporters in a period of around 10 years, being self-reliant could help India earn foreign exchange as well and pave the way for replication with other oilseeds as well.

Safety & human consumption

GM Canola, a sister crop of mustard, has been used extensively for hybrid seed production in rapeseed in Canada and Australia. In 2014 alone, Canada exported 9.6 million tonnes of seed, 2.3 million tonnes of oil and 3.4 tonnes of seed meal to all parts of the world.