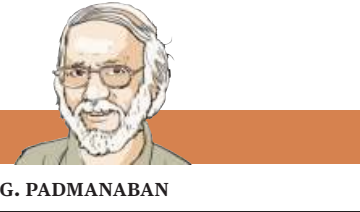


# Don't believe the anti-GMO campaign

GM crops reduce pesticide use, increase yields and profits, and pose no health hazards



A review article, “Modern technologies for sustainable food and nutrition security”, which appeared in the November 25 issue of the peer-reviewed journal *Current Science*, is deeply worrying. The article was authored by geneticist P.C. Kesavan and leading agriculture scientist M.S. Swaminathan and describes Bt cotton as a “failure”. As the Principal Scientific Adviser to the Government of India, K. VijayRaghavan, rightly said, this paper is “deeply flawed”. It has the potential to mislead the public and the political system.

**Rely on scientific evidence**  
While the general public can be easily swayed by unauthenticated reports, the authors, as scientists, should have relied on hardcore scientific evidence before making such adverse comments. The statement that “only in very rare circumstance (less than 1%) may there arise a need for the use of this technology [GM]” is not in consonance with their other statements such as the one in the concluding paragraph: “Genetic engineering technology has opened up new avenues of molecular breeding. However, their potential undesirable impacts will have to be kept in view. What is important is not to condemn or praise any technology, but choose the one which can take us to the desired goal sustainably, safely and economically.” Professor Swaminathan also said in a response to the criticism of the article: “Genetic modification is the technology of choice for solving abiotic problems like drought flood, salinity, etc. It may not be equally effective in the case of biotic stresses since new strains of pests and diseases arise all the time. This is why MSSRF [M.S. Swaminathan Research Foundation] chose mangrove for providing genes for tolerance to salinity.”

Abiotic stress in crops is a major hazard and does not fall under the less than 1% category mentioned in the review article. Major science academies of the world such as the U.S.’s National Academy of Sciences, the African Academy of Sciences and the Indian National Science Academy have supported GM technology. The U.S. National Academy of Sciences, after a massive consultation process, published a 420-page report in 2016 with the observation that “Bt in maize and cotton from 1996 to 2015 contributed to a reduction in the gap between actual yield and potential yield under circumstances in which targeted pests caused substantial damage to non-GE varieties and synthetic chemicals could not provide practical control”.

In 2016, 107 Nobel laureates signed a letter challenging Greenpeace to drop its anti-genetically modified organism (GMO) technology stance. They stated that the anti-GMO campaign is scientifically baseless and potentially harmful to poor people in the developing world. Data from a large number of peer-reviewed publications have shown that, on average, GM technology adoption has reduced pesticide use by 37%, increased crop yield by 22%, and increased farmer profits by 68% (“A Meta-Analysis of the Impacts of Genetically Modified Crops”, published in *PLOS One* by Wilhelm Klümper and Martin Qaim in 2014). Yield gains and pesticide reductions are larger for insect-resistant crops than for herbicide-tolerant crops.



“India has one of the strongest regulatory protocols for field trials of GM crops.” Bt cotton being harvested near Salem, Tamil Nadu, in 2005. ■ SHAJU JOHN

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Yield and profit gains are higher in developing countries than in developed countries. Data from a billion animals fed on GM corn have not indicated any health hazards. Those in the Americas and elsewhere consuming Bt corn or soybean for over 15 years have not reported any health issues. It is preposterous to think that governments would allow their people and animals to be fed “poisonous” food. Even reports based on faulty studies in experimental animals that stated that GMOs cause cancer were withdrawn. Major food safety authorities of the world have rejected these findings.

**Not a failure in India**  
Bt cotton is not a failure in India. The yields hovering around 300 kg/ha at the time of introduction of Bt cotton (2002) have increased to an average of over 500 kg/ha, converting India from a cotton-importing country to the largest exporter of raw cotton. There was a small dip for a couple of years and the yield has now increased to over 550 kg/ha. The question to be asked is, what would have the yield been if Bt cotton had not been introduced in 2002?

It is unfortunate that farmer distress is being wrongly attributed to Bt cotton failure. Farmers continue to grow Bt cotton. The development of resistance can be tackled through practices like Integrated Pest Man-

agement and by stacking Bt genes to fight secondary pests. The priority is to accelerate development of Bt cotton varieties that can be packed densely in fields and increase the yields to over 800 kg/ha, as is the case with other countries.

GM mustard (DMH-11) is a technology to create mustard hybrids. Being a self-pollinator, mustard is difficult to hybridise through conventional methods. Genetic modification allows different parents to be combined easily, helping yields go up substantially. The herbicide glyphosate is only used for selection of hybrids and is not meant for farmer fields. In any case, reports on the probable carcinogenic potential of the herbicide have not been accepted by major science academies. Yield data can only be assessed in farmers’ fields. For this, trials are necessary. The question then is: why are the trials being scuttled? The moratorium on Bt brinjal is the most unfortunate step taken by the government in 2010 and has crippled the entire field of research and development with transgenic crops. Bangladesh has used India’s data to successfully cultivate Bt brinjal, despite all the negative propaganda. Reports indicate that as many as 6,000 Bangladeshi farmers cultivated Bt brinjal in 2017. How long will it take for Bt brinjal to enter India from Bangladesh?

India has one of the strongest regulatory protocols for field trials of GM crops. Many scientists have been part of the monitoring processes, and it is an insult to the integrity of our scientists to indict the Review Committee on Genetic Manipulation and the Genetic Engineering Approval Committee as lacking in expertise and having vested interests. The paper by Dr. Kesavan and Dr. Swaminathan seems to have got most things wrong for whatever reason. GM technology is not a magic bullet. It needs to be evaluated on a case-by-case basis. There is definitely scope for improvement in terms of technology and regulatory protocols. But it is time to deregulate the Bt gene and lift the embargo on Bt brinjal. A negative review from opinion-makers can only mislead the country. In the end, it is India that will be the loser.

G. Padmanaban is a former director of the Indian Institute of Science, Bangalore, and Chancellor, Central University of Tamil Nadu

# The Congress’s experiments

Its electoral tactics have logic but its ideological strategy does not



On December 11 last year, Rahul Gandhi was elected as president of the Congress party. Four and a half years after the party’s debacle in the 2014 Lok Sabha elections, the Assembly election results of five States that will be known today will reveal whether the Congress is still in the game and whether Mr. Gandhi’s time at the helm has made a difference to the fortunes of the party.

These results are significant for many reasons. One, the Congress has a stake in all five States: it is the principal Opposition party in Madhya Pradesh, Chhattisgarh, Rajasthan and Telangana, and is in power in Mizoram. Two, three of these States are in the Hindi heartland and are part of the ruling BJP’s stronghold: in 2014, 62 of the 282 seats it won were from these States. Three, in the last three Assembly polls in 2003, 2008 and 2013, the party that won these three States went on to get the lion’s share of Lok Sabha seats in those States, too. And four, these results will not only reflect the popular mood in the Hindi heartland, but also in one State each in the Northeast and in south India.

**Strategy in five States**  
Given the importance of these elections, then, it is surprising that the Congress has not played it safe – it has experimented both with electoral tactics and ideological strategy. In Madhya Pradesh, Chhattisgarh and Rajasthan, it chose to go it alone. It did not ally with the Bahujan Samaj Party (BSP), the Samajwadi Party (SP), the Janta Congress Chhattisgarh or the Gondwana Ganatantra Party to keep its cadres intact, as part of a long-term strategy to rebuild its own organisation and regain lost ground. This is a gamble, because if this experiment does not succeed in at least two of these three States, the Congress will have to concede much more in prospective seat-sharing arrangements for the general elections – and not just in these three States, but also in Uttar Pradesh where it is a marginal party and where the SP, the BSP and the Rashtriya Lok Dal have already decided to contest together. These results will also influence the anti-BJP alliance in Bihar, but to a lesser extent, partly because the Rashtriya Janata Dal is more warmly disposed towards the Congress than the BSP and the SP.

In Telangana, the Congress has forged a grand alliance with its old rival in the region,

the Telugu Desam Party, as well as the Communist Party of India and the Telangana Jana Samithi. If this combination can decrease the gap in vote share with the Telangana Rashtra Samithi substantially, if not win the election, it would strengthen the idea of a countrywide mahagathabandhan for 2019, with State-specific alliances and a national agenda for governance. A wipeout would force the party to rethink its strategy.

It is odd, however, that the Congress has paid little attention to Mizoram, which is the only State where it is in power in the North-east. Of course, since north-eastern States tend to go with the party ruling at the Centre, the Congress, apart from warning people that voting for its principal ally, the Mizo National Front, would only help provide a back-door entry for the BJP, did little else. If the Congress succeeds in retaining the State, it will send out a message that voters in the State don’t believe that the BJP will win a second parliamentary term.

**Promoting soft Hindutva**  
That the Congress is testing its own strength in the Hindi heartland before the Lok Sabha elections has a certain logic to it. But its conscious decision to consistently play the soft saffron card does not. Party insiders say this is being done to “neutralise” its “pro-minority” image that the BJP has exploited to its advantage for years. However, that sits awkwardly with its stated commitment to the ideals of the freedom struggle and the pluralism promoted by former Congress president Sonia Gandhi and former Prime Minister Manmohan Singh. Mr. Gandhi’s rant against the RSS is diminished somewhat with his frequent temple visits and the reported declaration of his gotra: he would have been better off presenting himself as an Indian representing the syncretic culture of the country. Even the party’s election manifesto includes a promise to promote cow urine. What does all this tell the Dalits at a time of upper-caste assertion? What signal does it give Muslims who have been facing a heightened threat to their lives and livelihoods over the last four and a half years?

Mr. Gandhi may have united the Congress and pumped energy into it. He has made the party younger too, by promoting the likes of Sachin Pilot and Jyotiraditya Scindia. But regardless of which party emerges the victor in these elections, by resurrecting Rajiv Gandhi’s brand of competitive communalism, Mr. Gandhi has also helped nudge the political discourse a little more rightwards, from pluralism to Hindu fundamentalism. That will be an ideological victory for the BJP.

Smita Gupta is Senior Fellow, The Hindu Centre for Politics and Public Policy

## SINGLE FILE Disadvantage Congress

It is likely that any political capital accruing from Sabarimala will go to the BJP

K.P.M. BASHEER



The Congress’s political strategy in Kerala regarding Sabarimala has been to back those who oppose the court’s order. In its haste to showcase itself, along with the BJP, as the protector of Hindu customs and traditions, it has fallen between two stools.

Firstly, the party was slow to smell political capital in the Supreme Court verdict that permitted women of all ages to offer worship at the temple. The All India Congress Committee hailed the judgment as “historic”. State-level leaders welcomed it, but when the BJP, long in search of a cause that could bring Kerala Hindus to its side, jumped in, the Congress felt threatened. And when the Left Democratic Front government decided to carry out its constitutional duty of implementing the verdict, the Congress quickly reversed gear. It announced that it supported the agitating “devotees” who, it turned out, were mostly Sangh Parivar cadres. It wanted the Pinarayi Vijayan government to move the Supreme Court with a review petition and urged the Centre to bring in a law upturning the verdict. It also launched a State-wide campaign to protect Sabarimala’s “ancient customs”.

By that time, the BJP had moved far ahead with its own Sabarimala campaign that could inspire an uneasy “Hinduism in peril” sense among some voters. State BJP president P.S. Sreedharan Pillai told a Yuva Morcha meeting that the Sabarimala issue was a “golden opportunity” for the BJP to grow and, with its huge grassroots-level network, the Sangh Parivar could easily mobilise men, women and material for the campaign. The Parivar’s propaganda machinery effectively changed the Sabarimala narrative from a State government implementing a Supreme Court verdict to a Communist-led government using its police force to wipe out Hindu customs and eclipse the glory of a great temple.

The Congress’s campaign ended up lending credence to the Sangh Parivar narrative. In the public’s mind, both the BJP’s and Congress’s Sabarimala narratives merged. The two campaigns were similar – if anything, the BJP’s was considerably more aggressive and sometimes violent. It is also noteworthy that the Congress’s Kerala campaign played out against the backdrop of the Assembly election campaigns in Rajasthan, Madhya Pradesh and Chhattisgarh, where some say the Congress has been unabashedly pandering to majority sentiments. In that regard the Sabarimala misadventure may have dented the party’s secular, liberal image.

Muslims and Christians make up 45% of Kerala’s population. It is this demographic that has kept the Modi wave out of Kerala. It is also the huge presence of the minorities in the Congress ranks that has kept the party alive and well in Kerala when it was beaten in other States. Now, however, Muslims and Christians eye the party with suspicion. Thus, it is likely that any political capital accruing from Sabarimala will go to the BJP; and post-Sabarimala, the minorities might substantially disinvest politically from the Congress.

The writer is Chief of Bureau at The Hindu in Kozhikode



## NOTEBOOK

### When the phone buzzes at odd hours, you know it's Trump

On the tweeting President who makes the very existence of journalists irrelevant

VARGHESE K. GEORGE

I don’t tweet much. And not using Twitter today is probably equivalent to a reporter not learning shorthand a few decades ago. You can get by, but only barely. If smart mining of the platform can yield useful inputs for your reporting in general, reporting on U.S. President Donald Trump is impossible without tracking his Twitter handle continuously. I learnt this as this newspaper’s former U.S. correspondent.

That I was an early riser helped in this case, as Mr. Trump’s Twitter life starts pretty early in the day. I noticed that on most days his first post was some time between 6.30 and 7.00 a.m. in the initial days of his presidency. Soon I realised that he could tweet any time, and to deal with this, set up an instant alert on any posts from @realDonaldTrump. From the sacking of his Secretary

of State to what he thinks of transgender soldiers, the world – and reporters – get to know the U.S President’s thoughts through Twitter regularly. Every time my phone buzzed, I knew that the President had something to say.

But all this is not to make the life of journalists easy, but their very existence irrelevant. “I’m proud to announce to the media, to the American people and to the Indian people that Prime Minister Modi and I are world leaders in social media,” Mr. Trump said in his remarks in June 2017, at the White House, after his first bilateral meeting with Mr. Modi. “Giving the citizens of our countries the opportunity to hear directly from their elected officials and for us to hear directly from them. I guess it’s worked very well in both cases,” he said.

Among things that we heard this week was his commentary on his former Secretary of State, Rex

Tillerson: “He was dumb as a rock... He was lazy as hell.” His take on the protests in Paris? “Protests and riots all over France... Chanting ‘We Want Trump!’ Love France.” American elites wake up to read such presidential transgressions everyday, and Mr. Trump gets his dose of pleasure.

The policy implications of Mr. Trump’s Twitter posts are a mixed bag. Quite confident on January 1 morning this year that the U.S capital would be sleeping, I had not bothered about @realDonaldTrump. But if you can trust the President with one thing, it is to be unconventional. That early morning post was a rant against Pakistan. And when he tweets nothings, those become bigger stories. Remember “covfefe”? That word came in a tweet after midnight in May 2017. “Who can figure out the true meaning of ‘covfefe’??? Enjoy!” he said

six hours later.

While Twitter has remained his principal tool of communication, a few times in the last 23 months Mr. Trump has also surprised scribes in the White House briefing room by suddenly appearing through the blue door behind the spokesperson’s podium, mostly to give some teasers on something that would happen later. Mr. Trump never runs away from the media. He is always willing to take an extra question, not necessarily to respond, but for a combative take down. But he wants Twitter to be a one-way street. Early this year, seven Twitter users blocked by him challenged him in court. The judge decided that the handle is a space operated by the government and ordered the President to unblock those handles. As for White House reporters, if you hear the buzz of your phone in the morning, you know who it is.

## FROM The Hindu. ARCHIVES

FIFTY YEARS AGO DECEMBER 11, 1968

### Govt. accepts Nath Pai's Bill

The Union Cabinet to-day [December 10, New Delhi] had a brief discussion on Mr. Nath Pai’s bill to restore to Parliament the right to amend any part of the Constitution. It is believed they took note of the divergence of opinion in the ruling party over the decision to support Mr. Nath Pai’s measure. It was decided that the Government must go ahead with its proposal to support the Bill as was originally promised. It would appear that the consensus, however, was that the Bill should not be rushed through and enough opportunity must be given to all members to express their views. The Law Minister in the meanwhile, it is learnt, has been asked to have a second look into the Bill and see if any amendments could be brought forward to accommodate the opposing points of view within the party. It would now appear that the Bill will not be passed during the current session and debate on it will be resumed during the budget session.

A HUNDRED YEARS AGO DECEMBER 11, 1918.

### President Wilson on his Mission.

President Wilson, in his annual message to the Congress read at the joint sitting to-day [in Washington on December 2] dealt with both domestic issues and problems of peace. He said in part: “The year that has elapsed since I last stood before you to fulfil my constitutional duty to give the Congress from time to time information on the state of the union, has been and is crowded with great events, great processes and great results that I cannot hope to give you an adequate picture of its action or of the far-reaching changes which have been brought about in the life of our nation and of the world. You have yourselves witnessed these things as I have. It is too soon to assess them, and we who stand in the midst of them are a part of them and are less qualified than men of another generation will be to say what they mean or even what they have been.

## CONCEPTUAL Natal homing

BIOLOGY

This refers to the phenomenon wherein various adult animals return to their place of birth for the purpose of reproduction. Sometimes animals may even prefer to live their entire lives at the site of their birth. Natal homing is most common among marine animals, like certain types of salmon and sea turtles, which are equipped to use olfactory and other cues to locate their birthplace. While it remains unknown why these animals prefer to breed in their own birthplace, some believe that it might be because their birthplace provides animals the assurance of safety. Natal homing, however, might lead to increased chances of inbreeding.

## MORE ON THE WEB

Watch: What happened at Delhi Comic Con 2018

<http://bit.ly/DelComicCon18>