

Attitudes and Perceptions about GMOs: A Quantitative and Qualitative Study in India

2007-2010

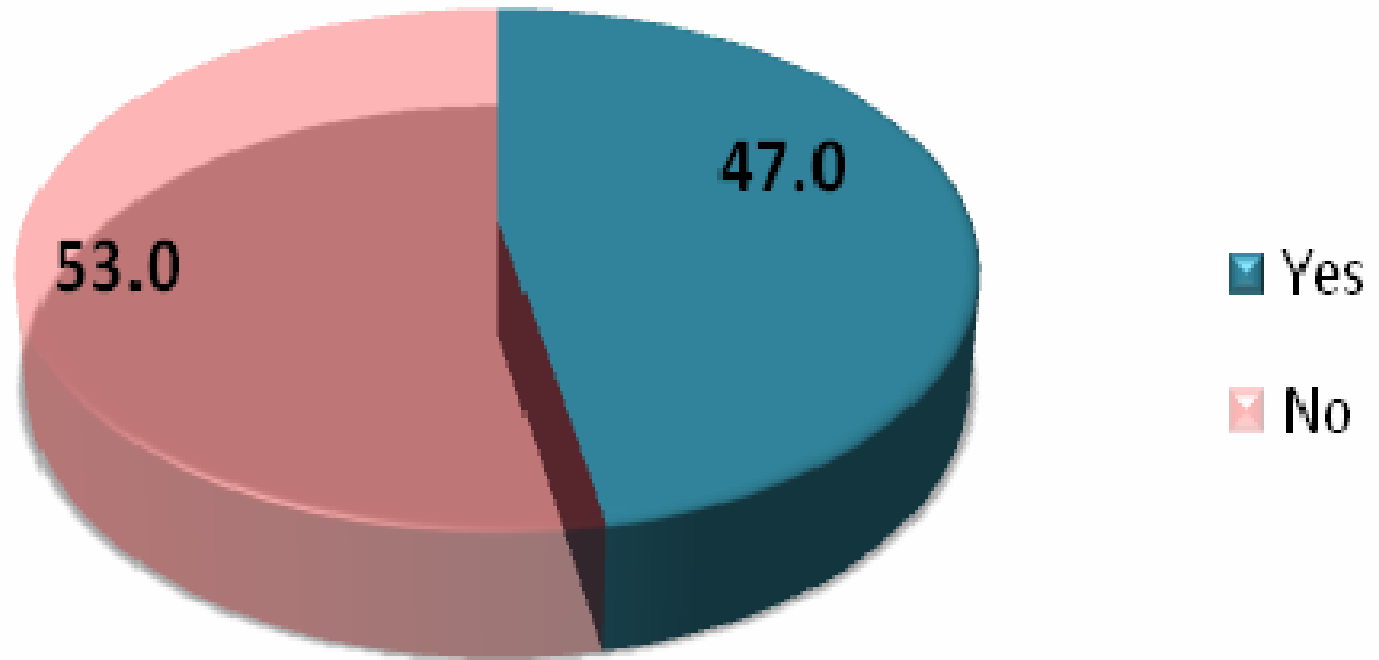


Farmer Responses

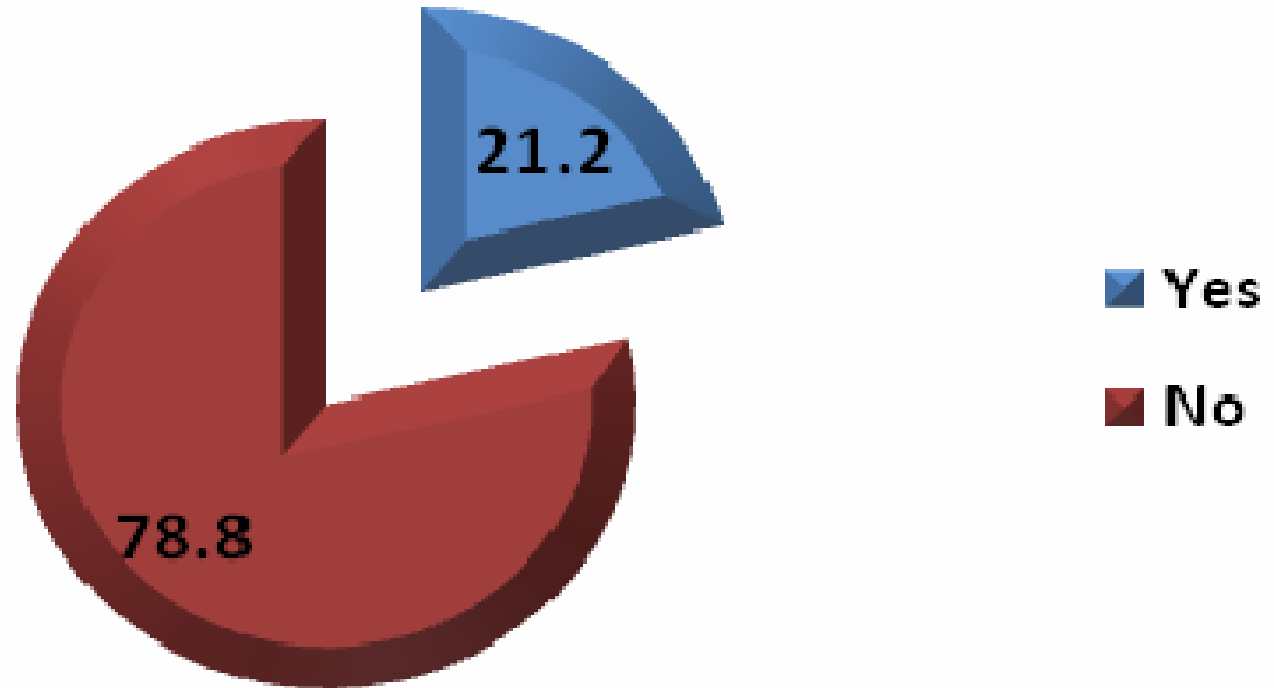


What kind of new pesticides do you want?	%
Pesticides that will control pests well but be risky for health	15.7
Pesticides that will control well but will reduce soil fertility in the long run	20.5
Will only partly control pests but will not affect soil fertility	69.0

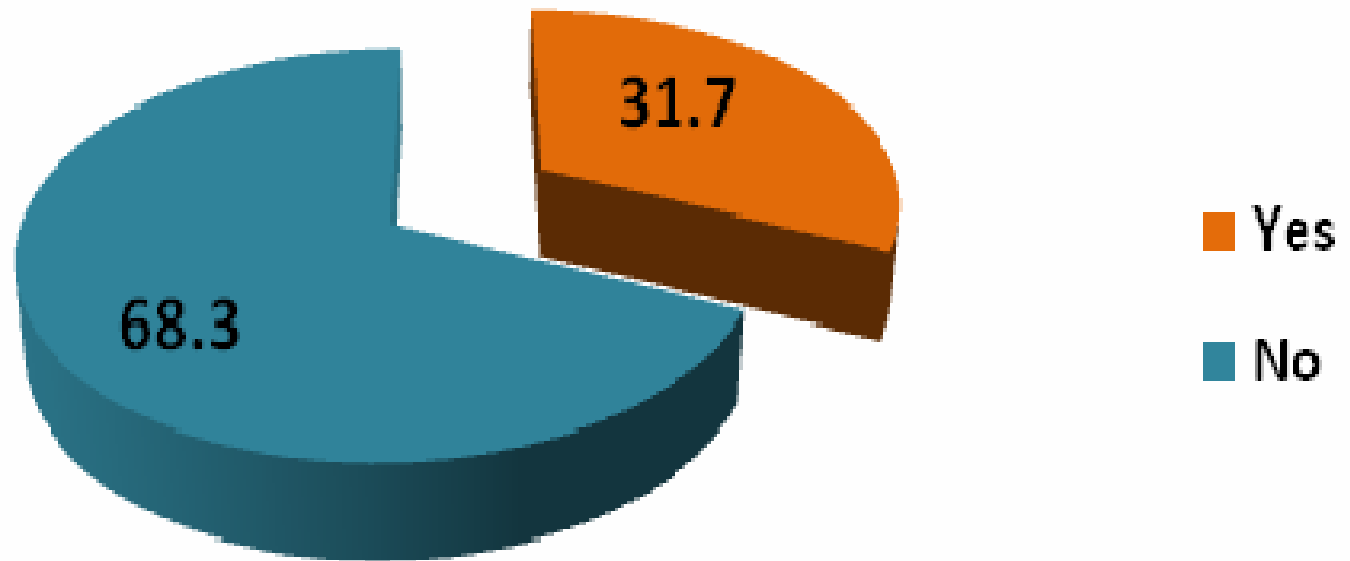
Would you cultivate cash crops from seed having insect poison in it to control pest



Would you cultivate food crops from seed having insect poison in it to control pest



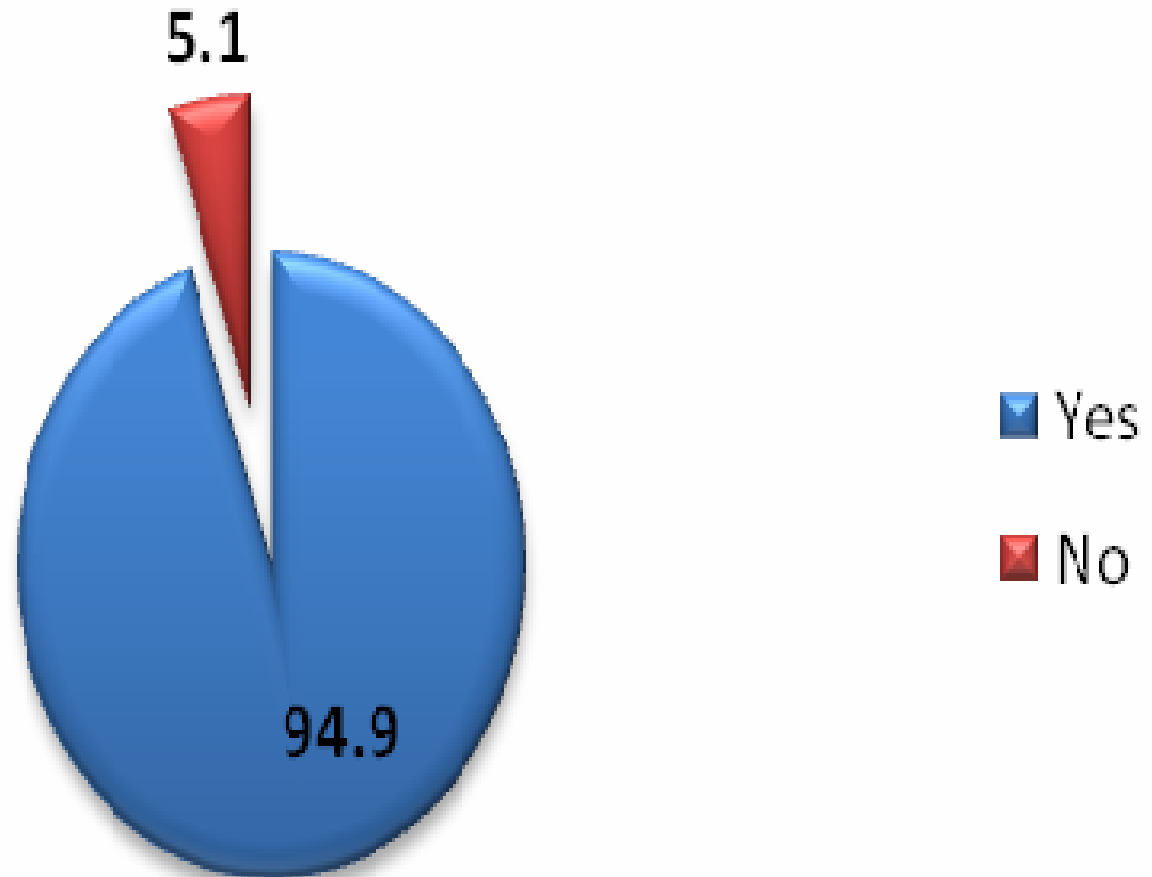
Will you use new types of seeds if you can reduce pesticide use but had to monitor the no, of pests every morning?



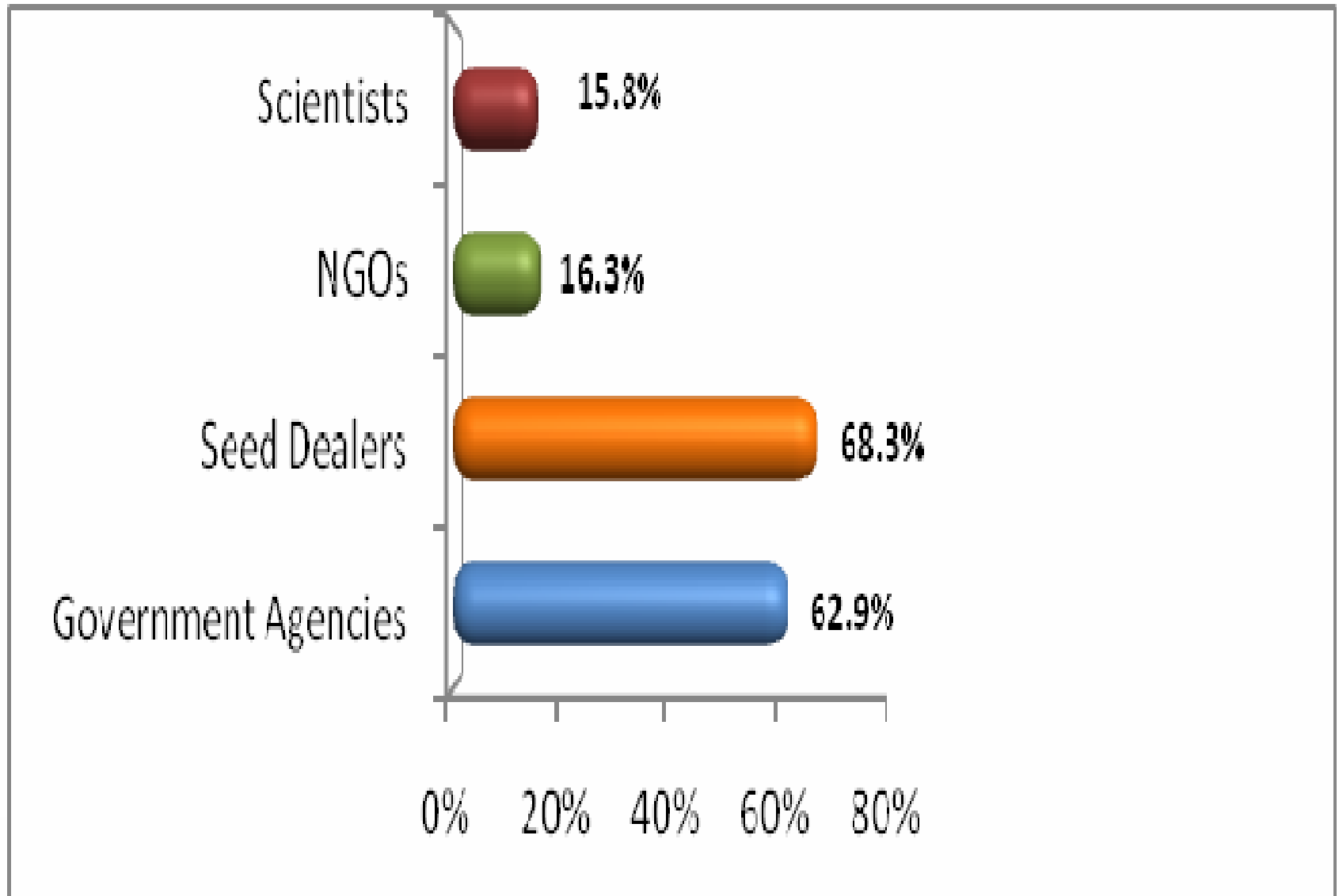
Will you use chemicals that would kill all weeds but also kill

	Freq	% yes
Surrounding plants	746	18.4
Medicinal plants	262	6.5
Fodder plants	617	15.2
Saag & Leafy greens	537	13.3
Mixed cropping was impossible	738	18.2
Base Total	4,052	100.0

Do you feel free to choose your seed?



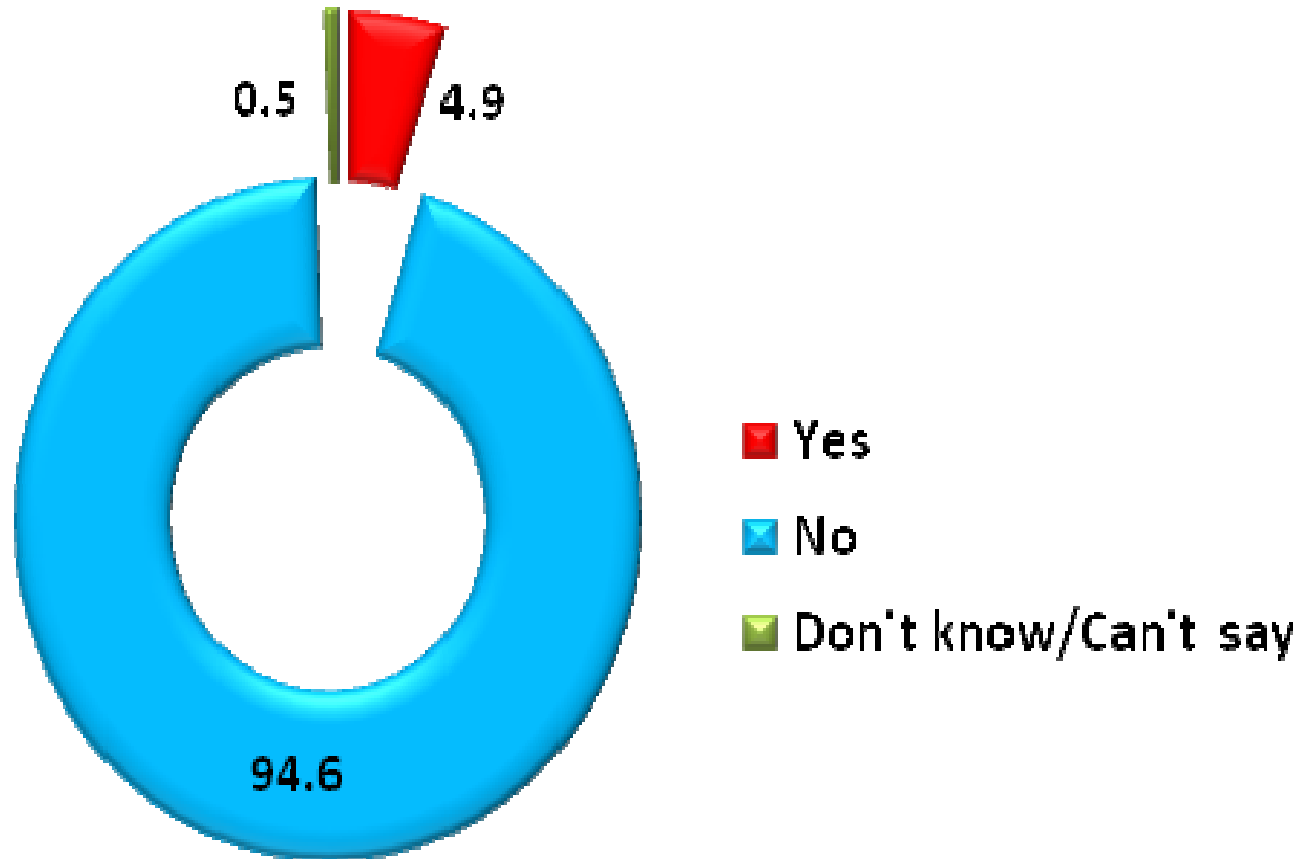
Who influences your choice of inputs



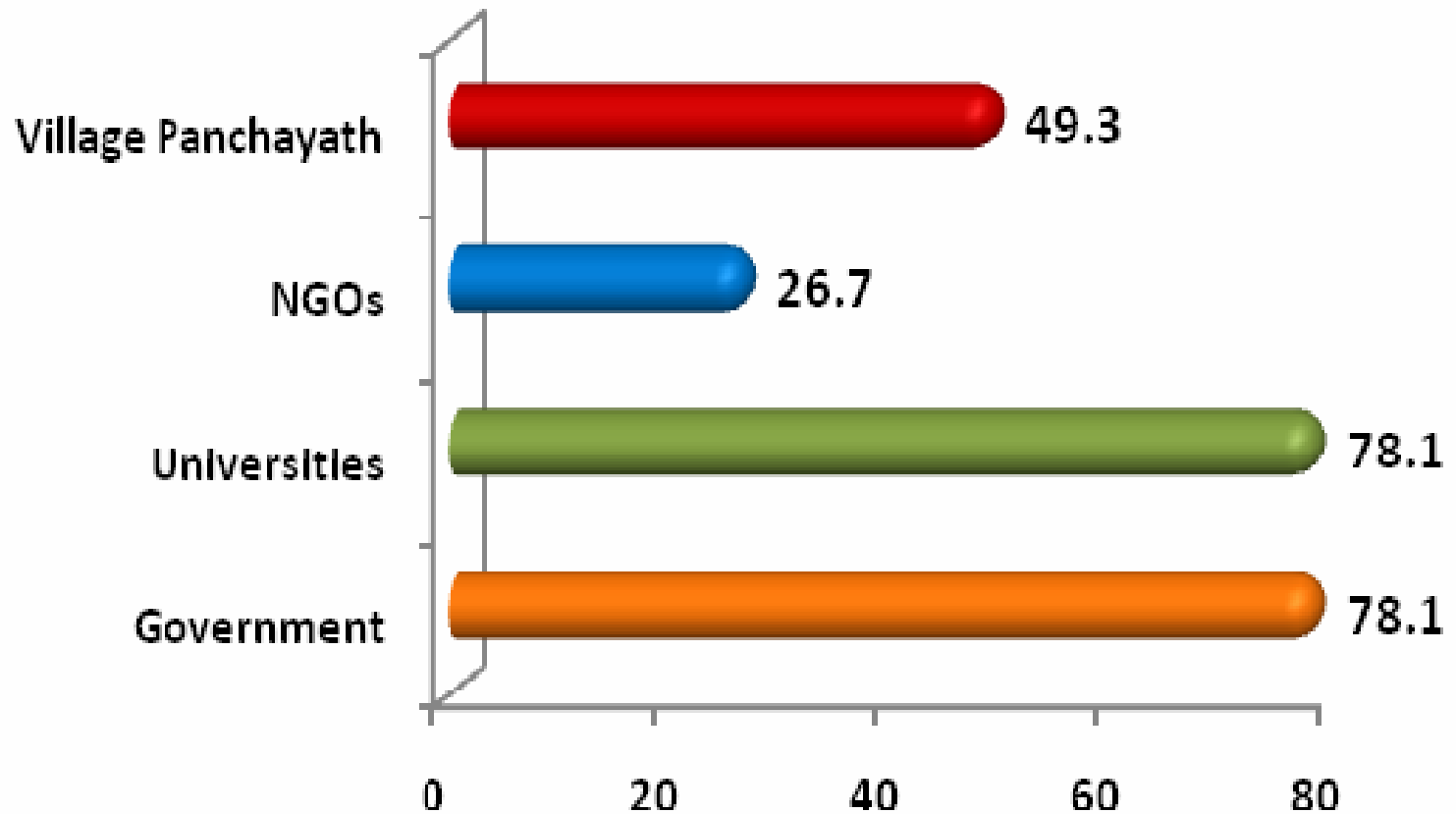
Who do you trust most as a source of Information

	Low	High
Government Agencies	12.8	87.2
Seed Dealers	18.8	81.2
NGOs	71.0	29.0
Scientists	61.5	38.5
Media	52	48.0
Base Total	4,052	

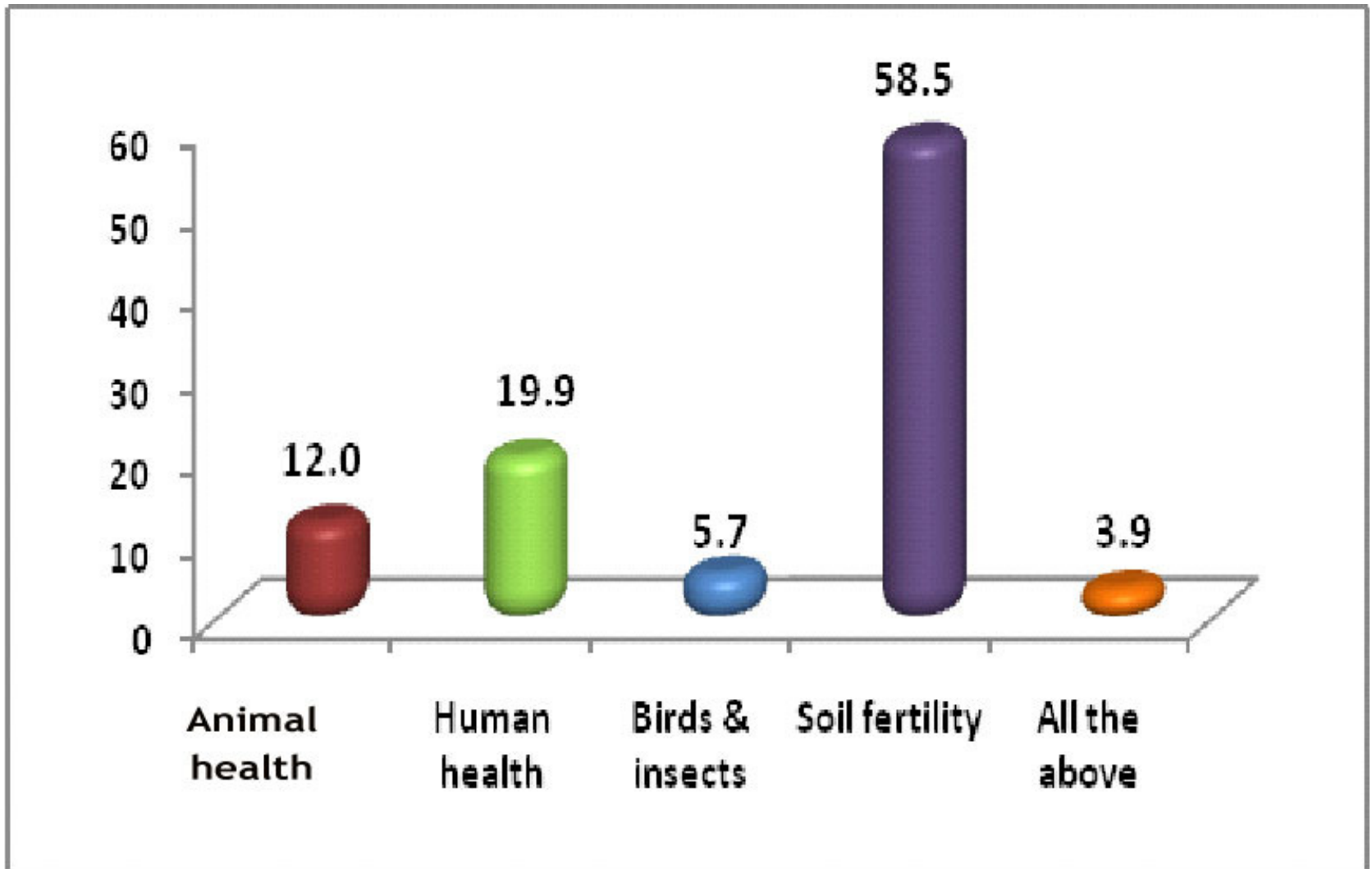
Would you eat new foods that were highly nutritious but were grown from seed containing animal or insects parts



If new seeds are created that have benefits but also risks, who should regulate/monitor these seeds?



Did you notice any harmful effects of Bt cotton on



Are you satisfied with the following

	Satisfied	Not Satisfied	Can't Say	Total Respondents
Quality of seeds	84.3	14.3	1.4	2,054
Fertilizers	70.2	29.3	0.5	2,053
Pesticides	65.0	33.5	1.5	2,053
Others	37.4	19.5	43.1	527

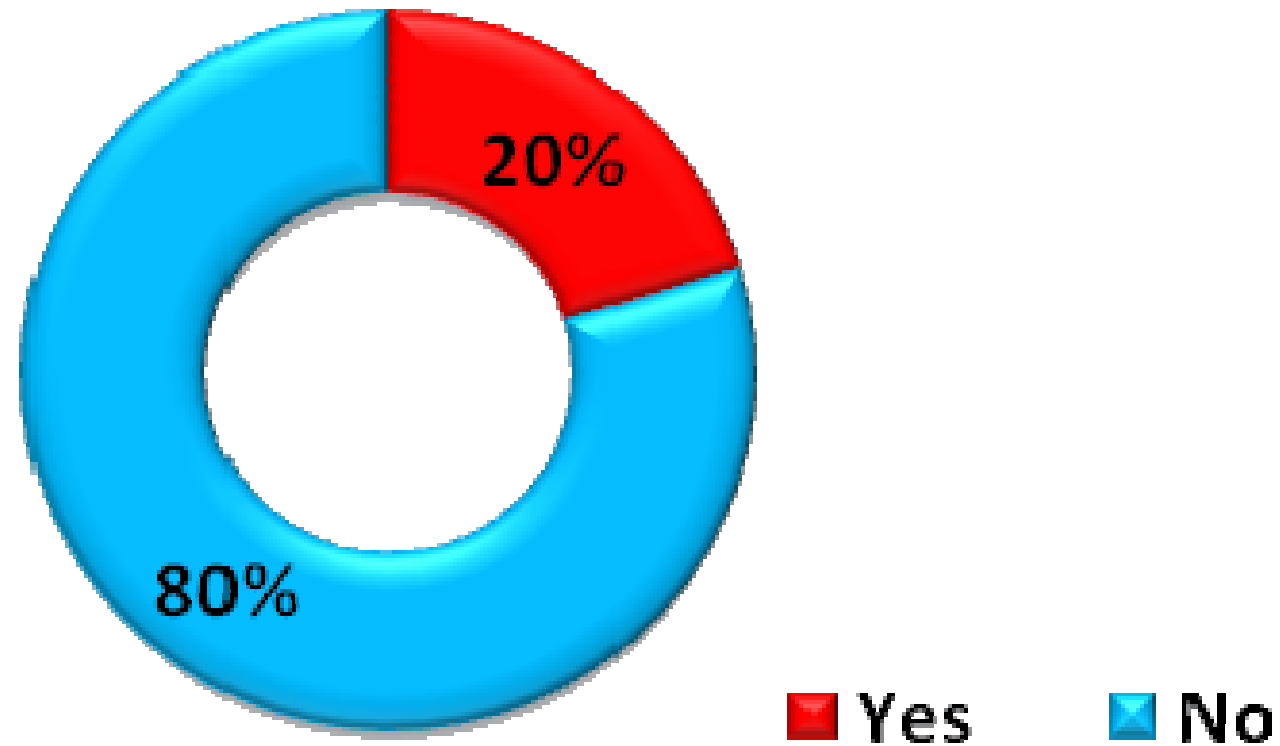
Will you use seed if

	Yes	NO	Total Respondents
Yield is high but grains cant be stored long	70.1	29.9	2,053
Yield is medium/low but grains can be stored long	24.3	75.7	2,051
Earth worms & friendly insects are killed	20.4	79.6	2,052
Yield is high but grain is uneven	25.7	74.3	2051
Yield is high but taste is poor	26.7	73.3	2067

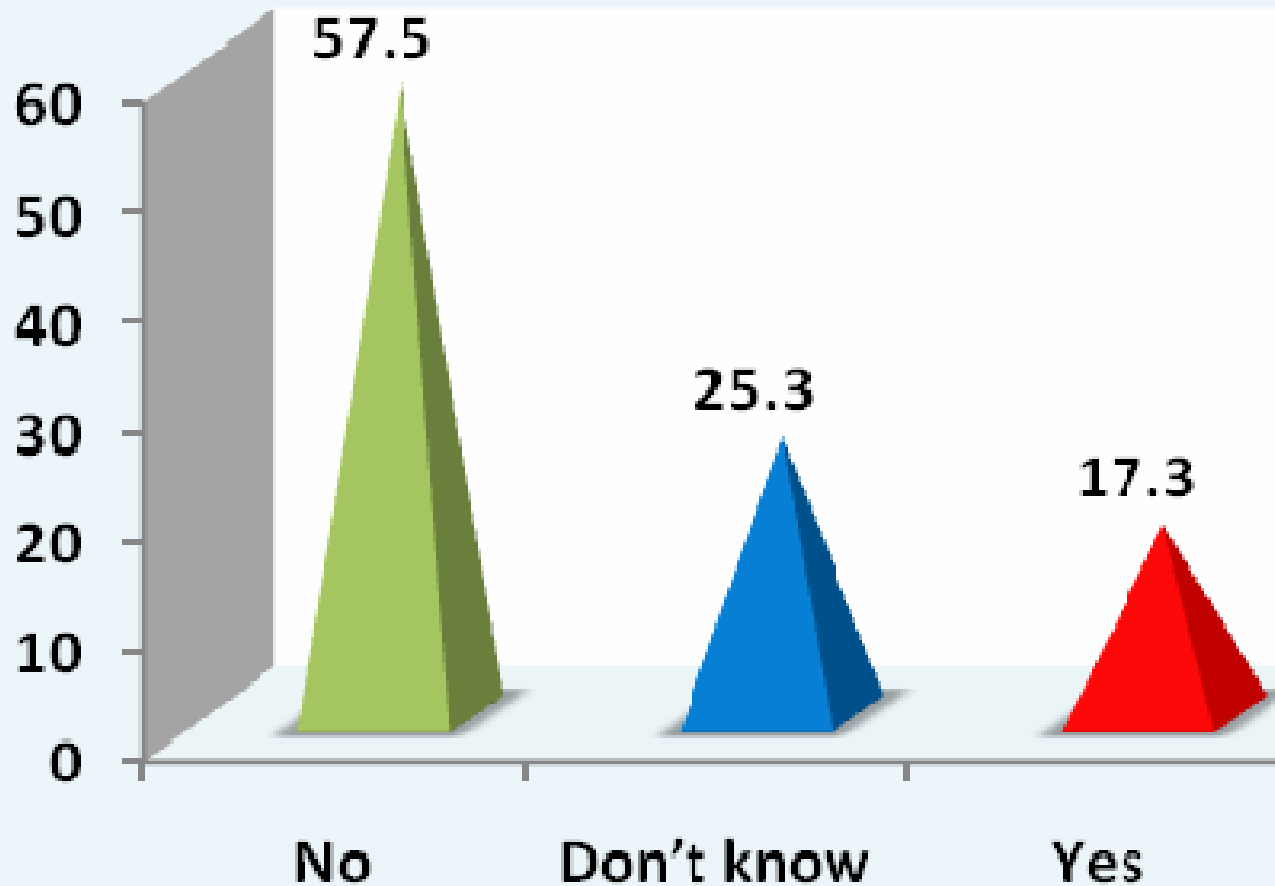
Consumer Responses

Have you heard about GM food?

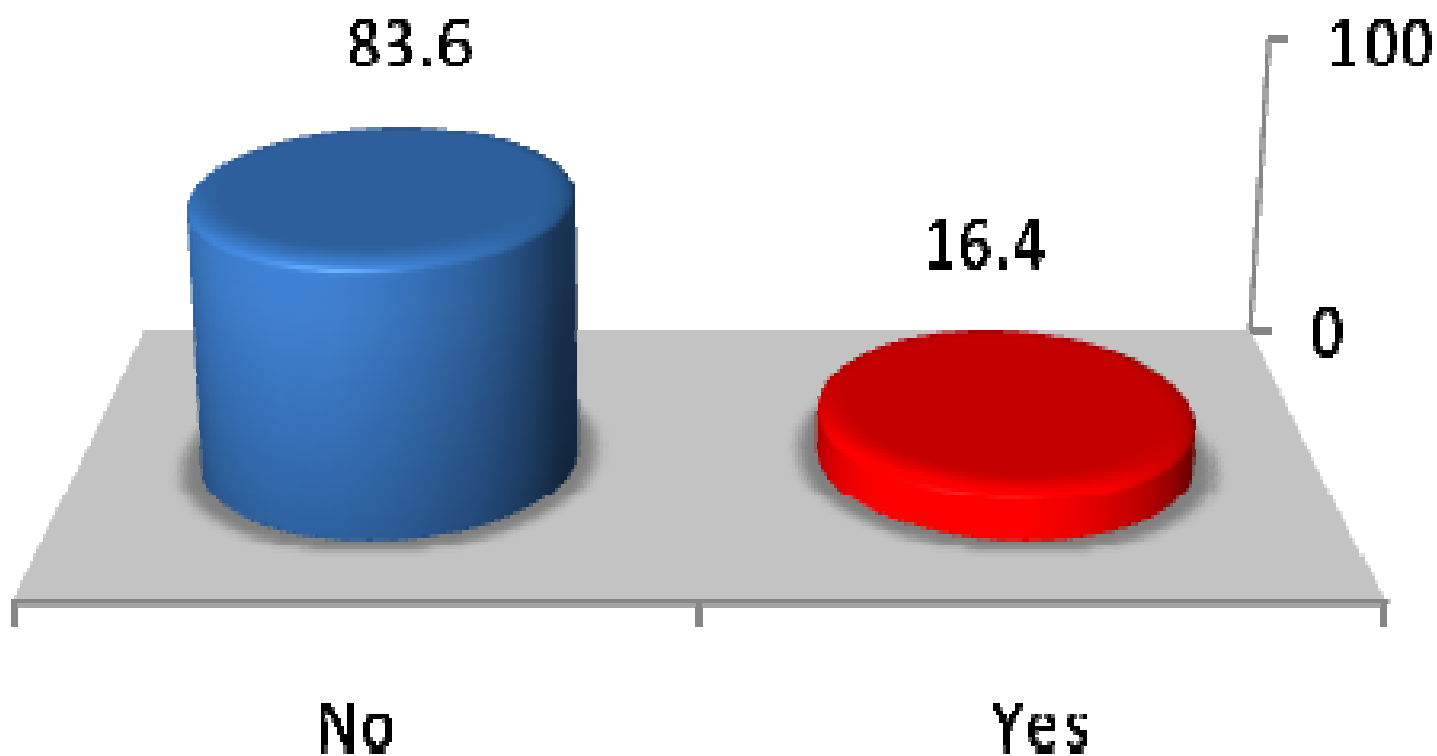
Have you heard about GM food?



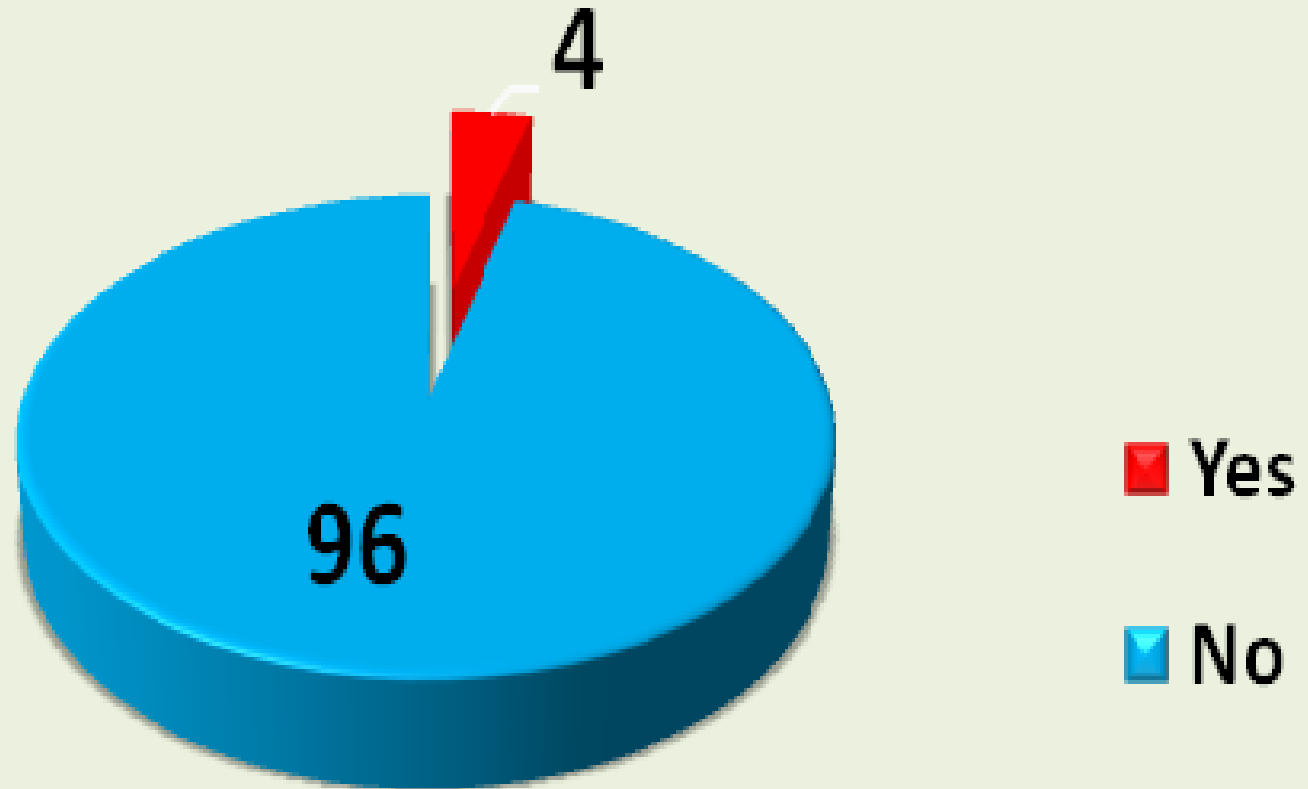
Do you think that GM foods are available in the market?



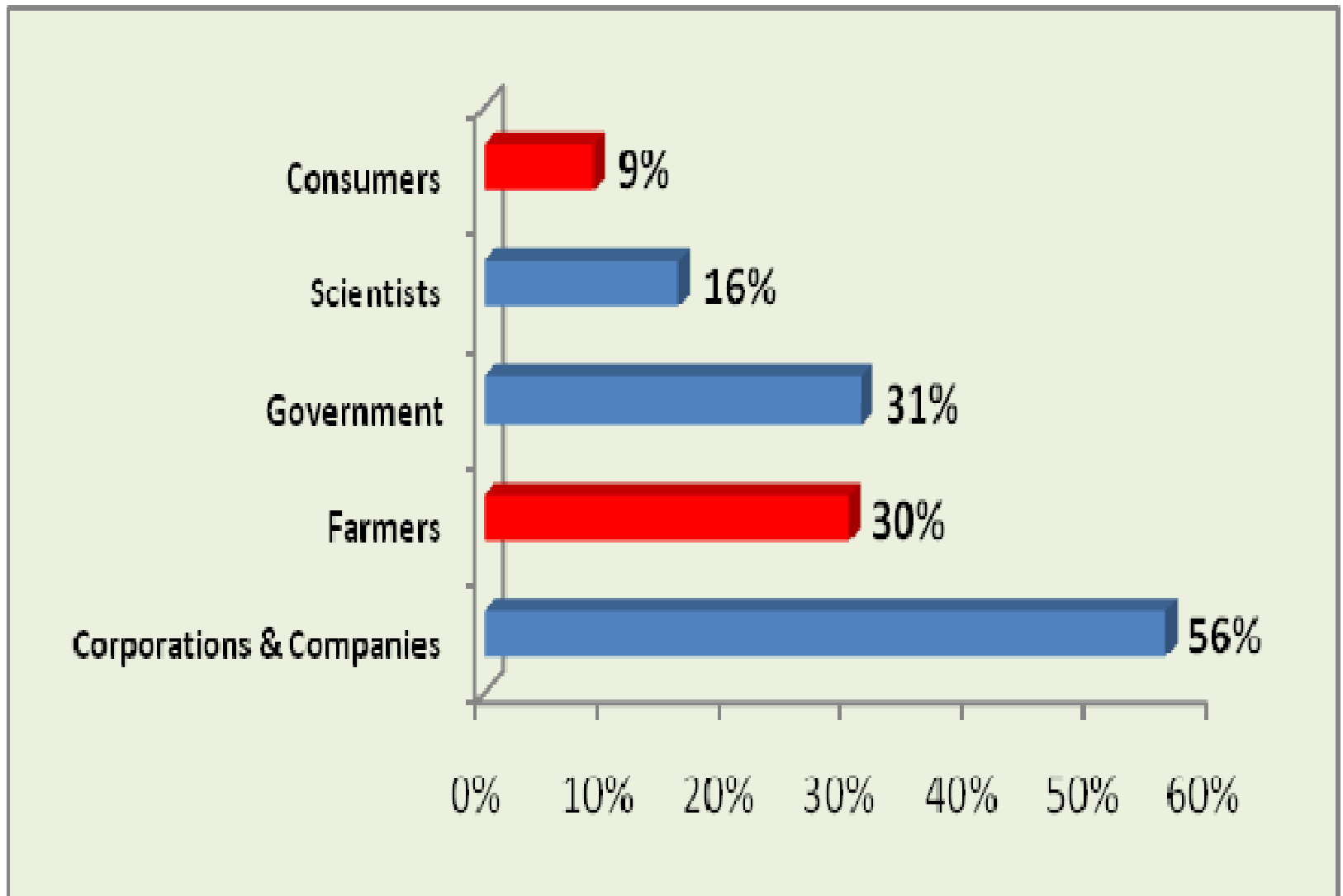
Have you heard about the benefits of GM food?



Have you heard about any risks related to GM food?



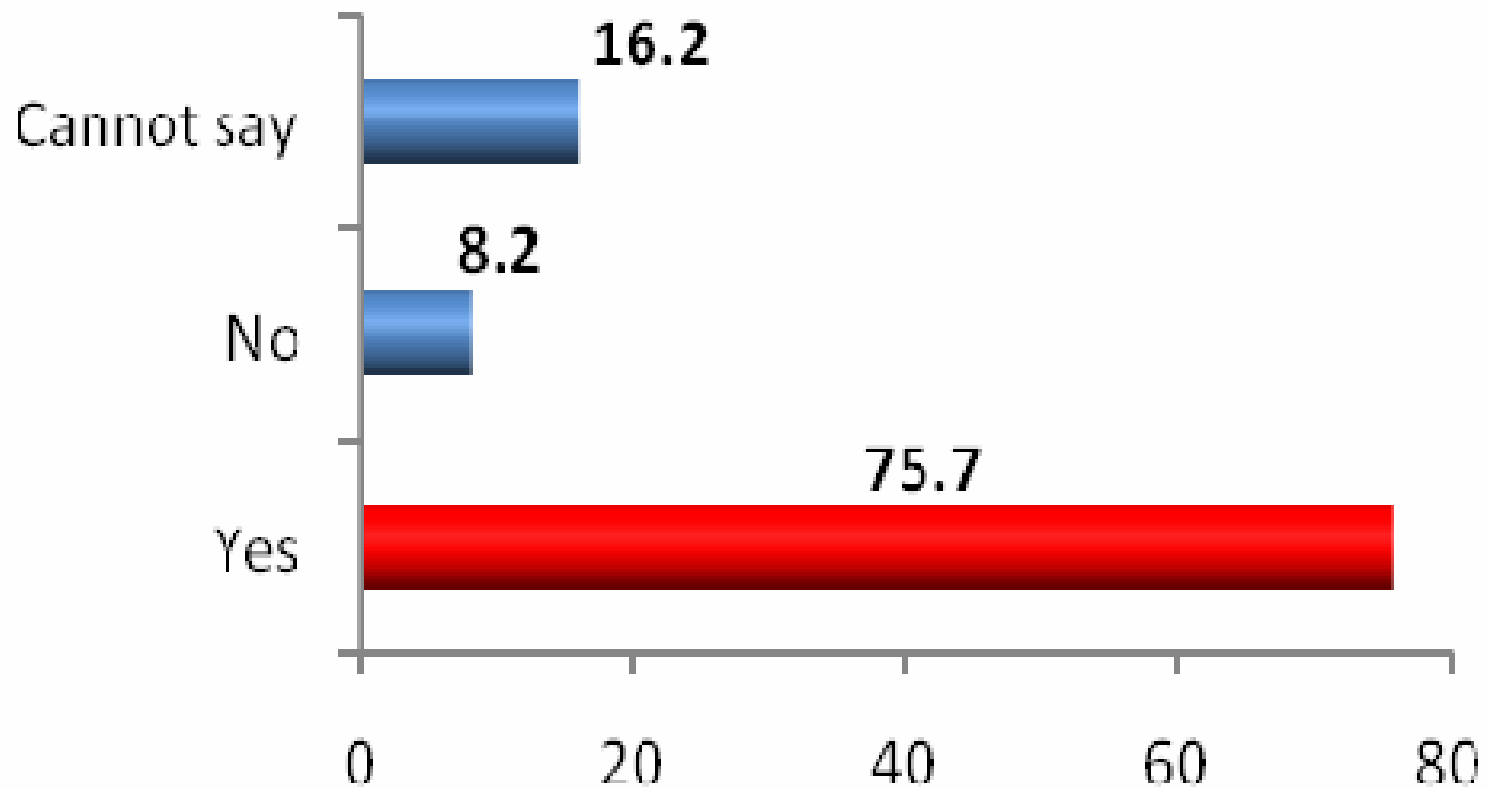
Who do you think benefits most from the use of GM foods?



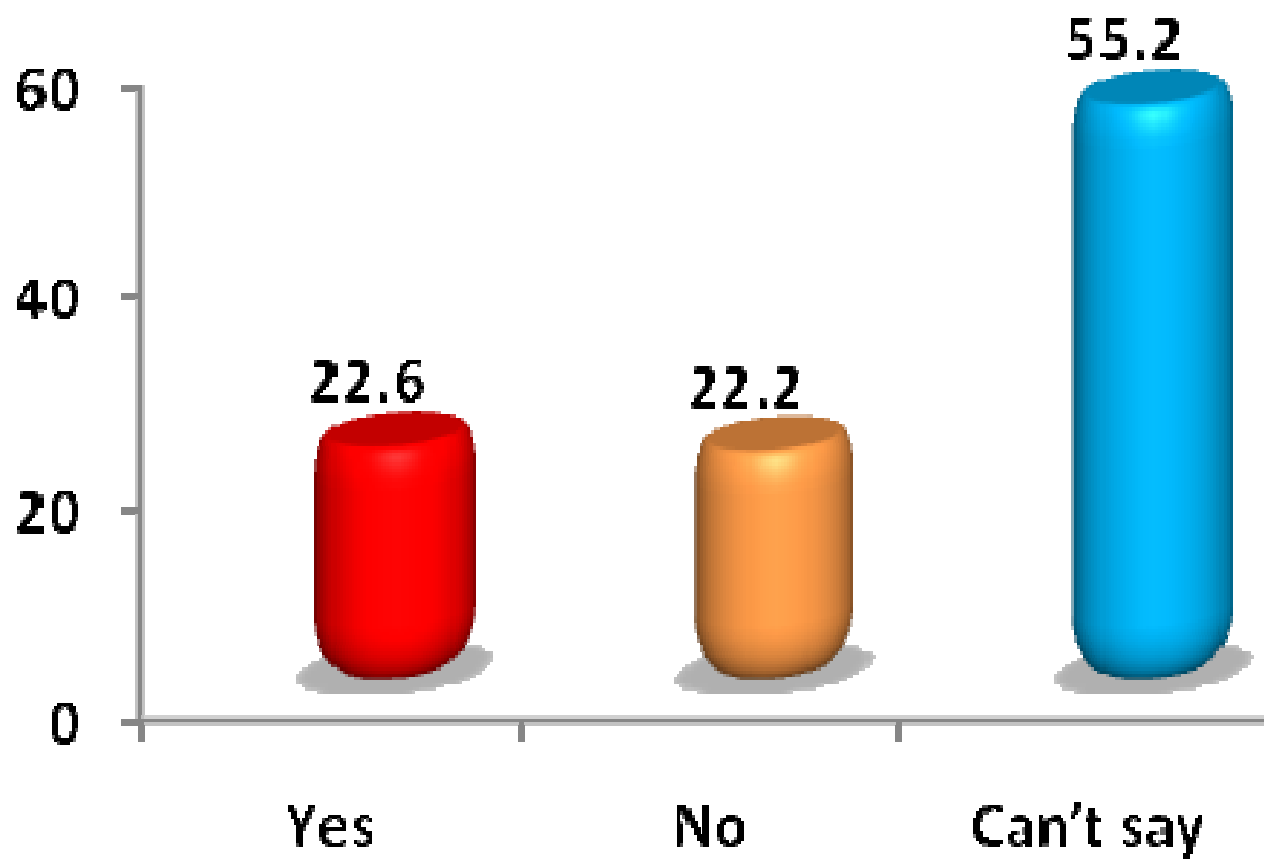
Do you think.

	Agree	Can't Say	Disagree
GM Crops tamper with nature	28.5	60.1	11.4
More research needed, Inadequate knowledge	64	30.2	5.9
Unsafe For Health	19.5	65.6	14.8
Harmful to Environment	16.5	66.4	17.1
Violate Social values	18.1	67.6	14.3

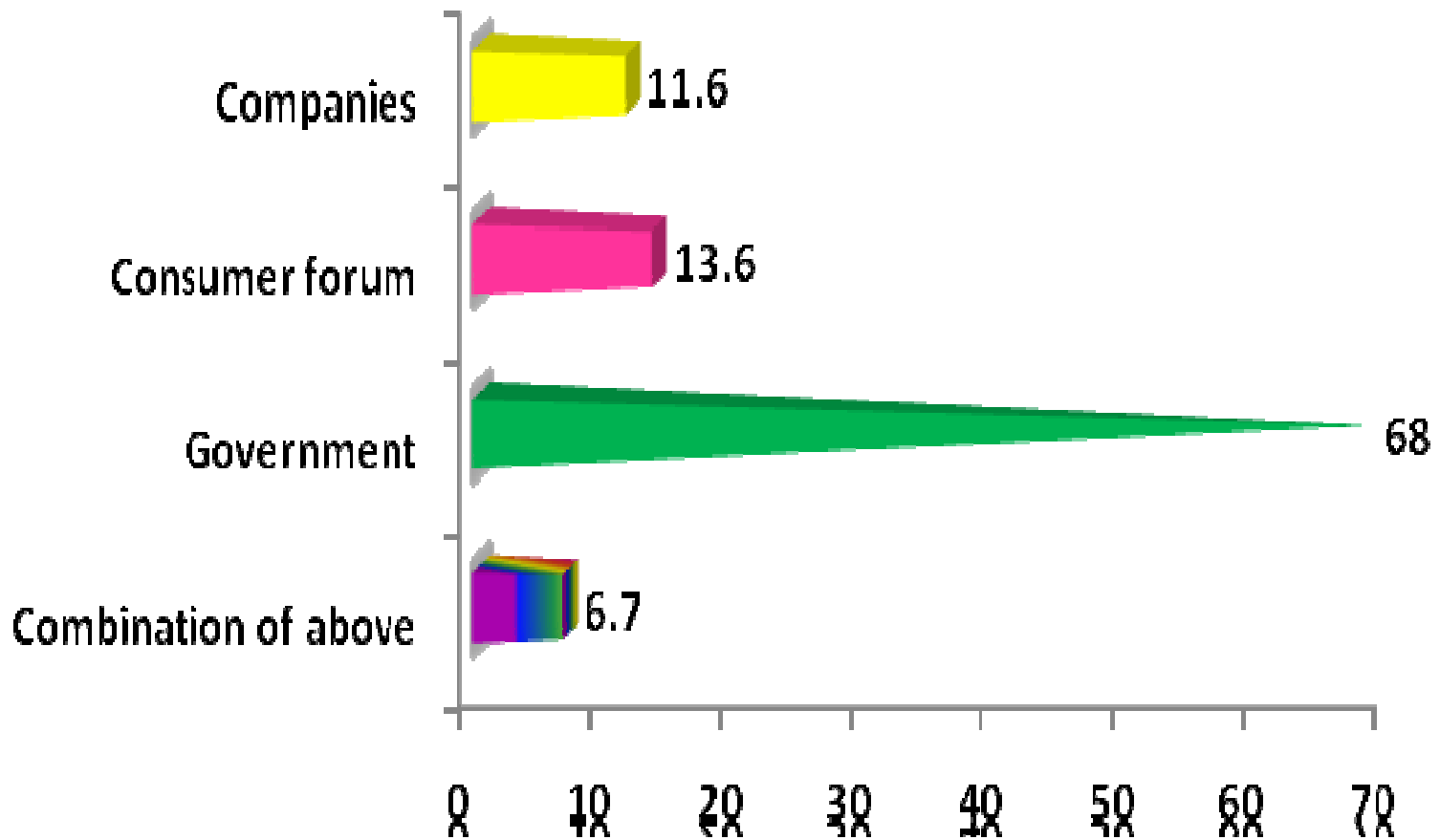
Do you think consumers have the right to know about the ingredients in food?



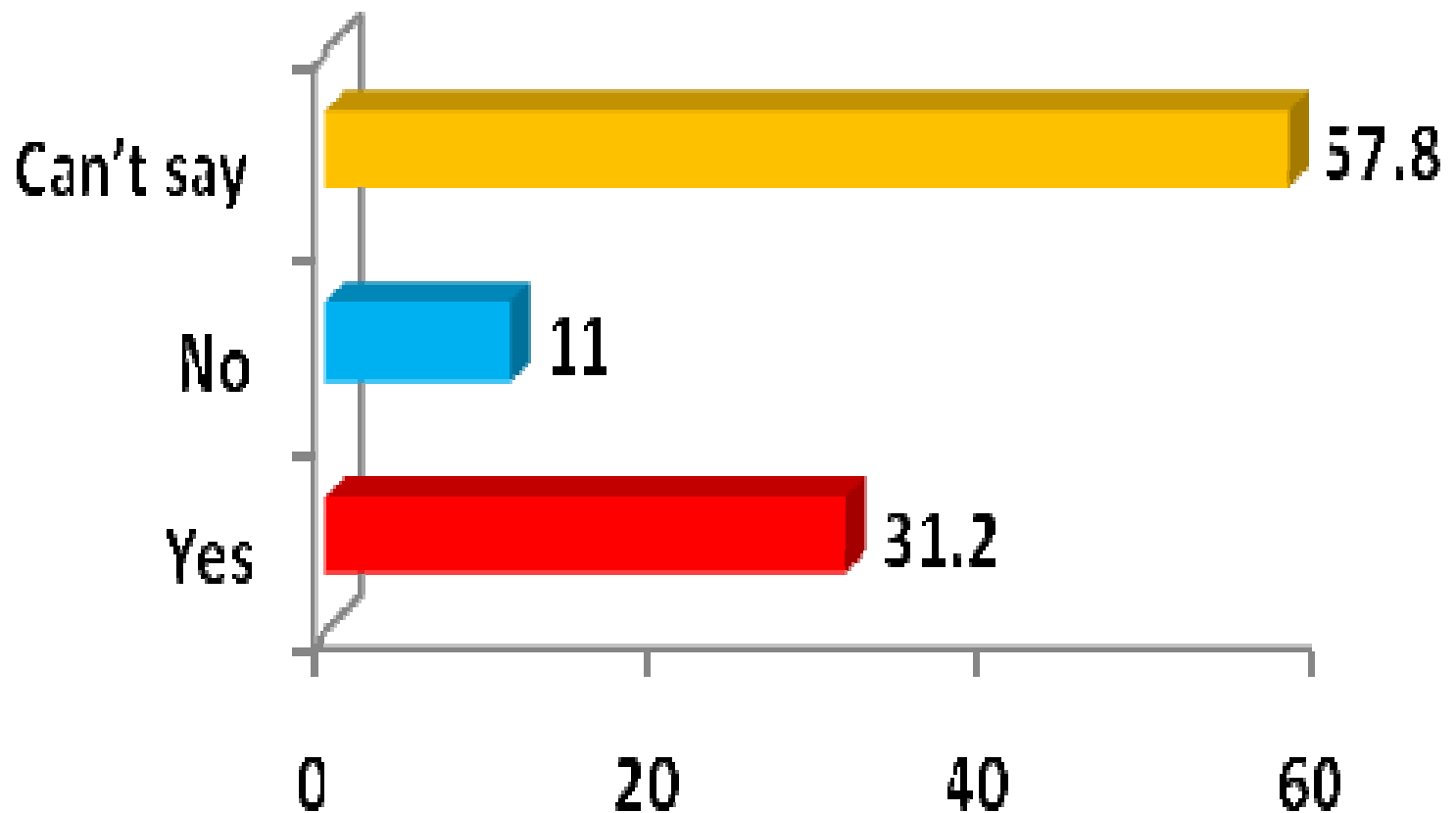
Do you think GM food is labeled in India?



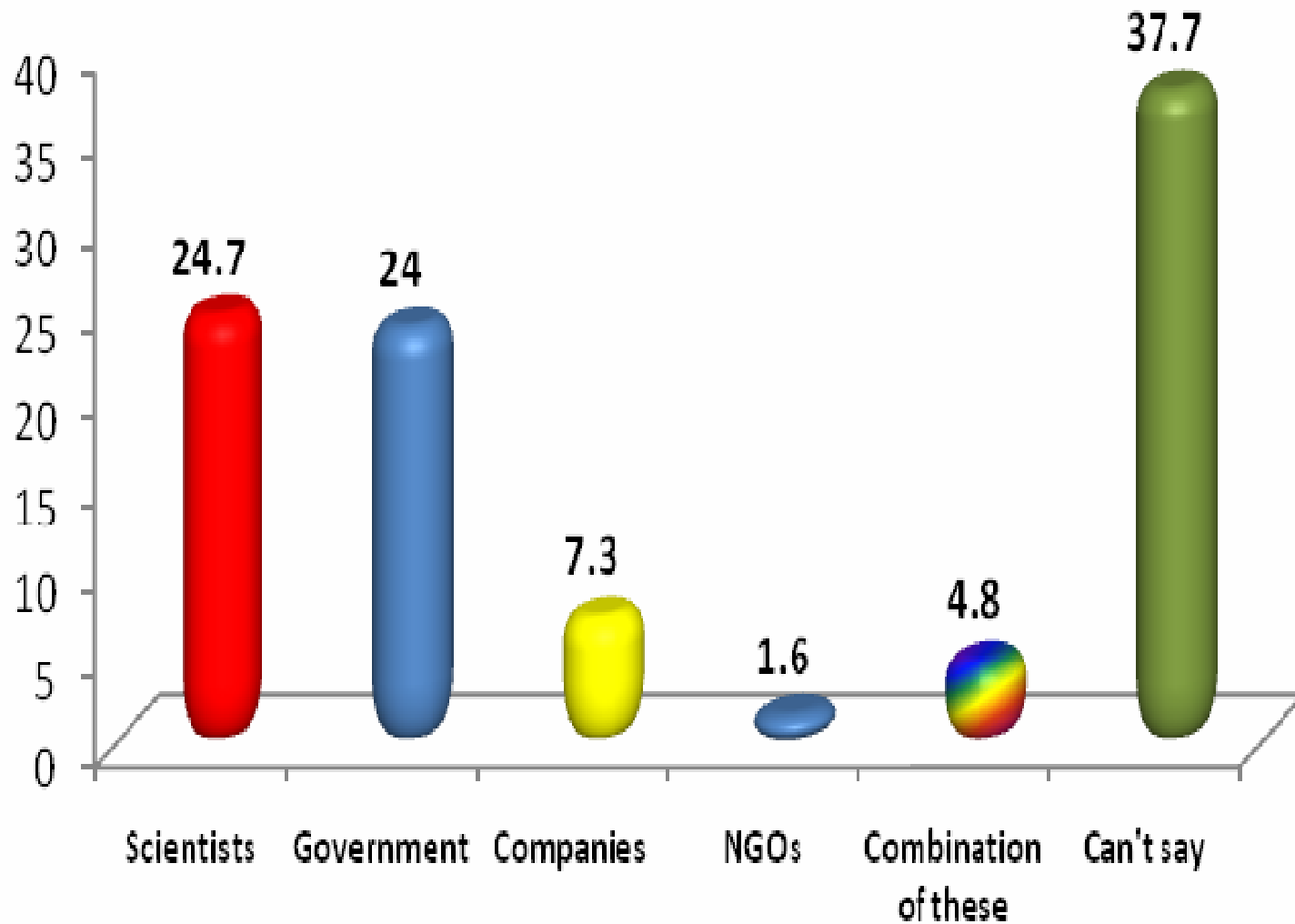
Who should ensure labeling of GM foods?



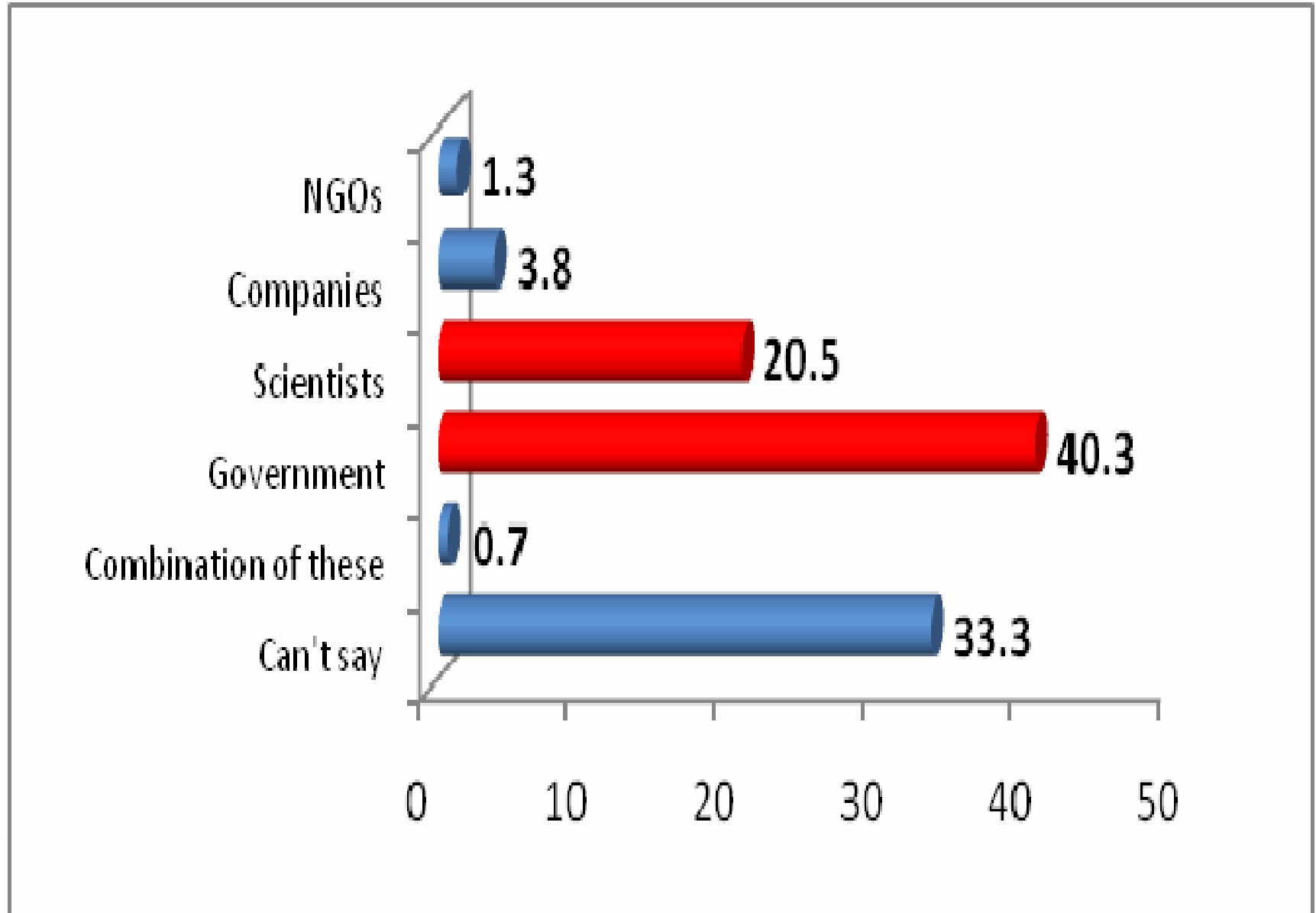
Do you think GM foods/crops are being tested adequately?



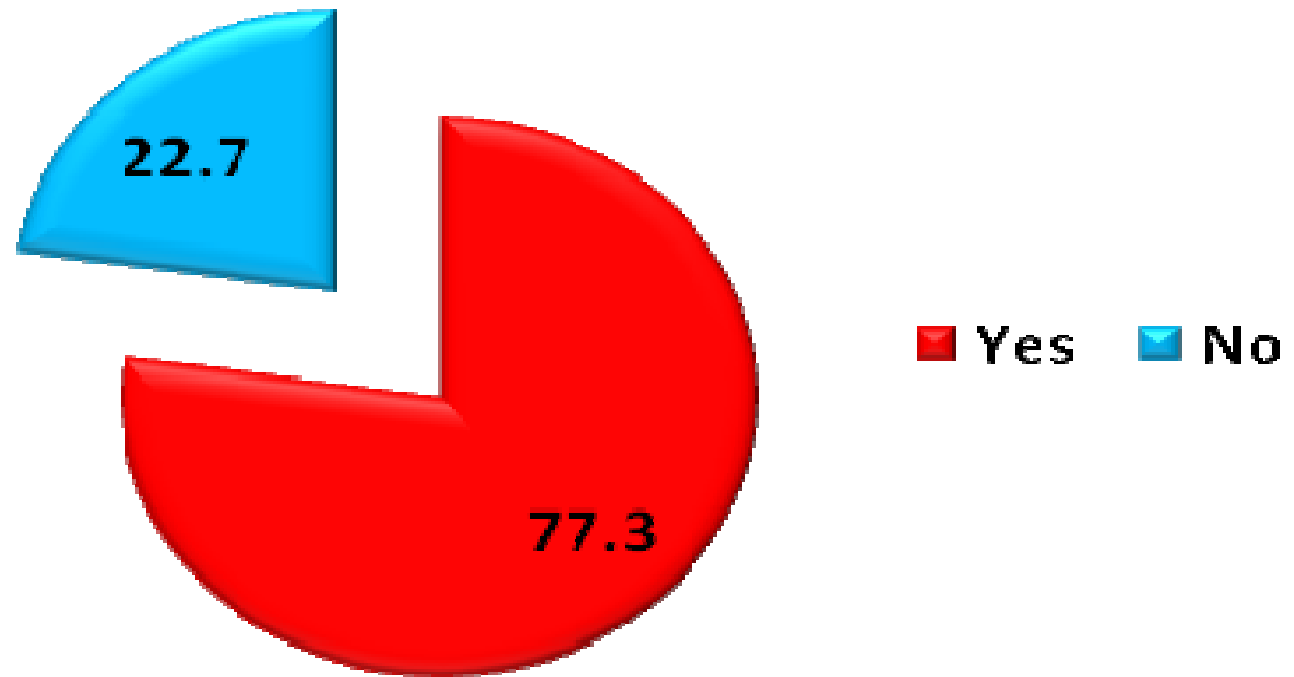
Who is testing these?



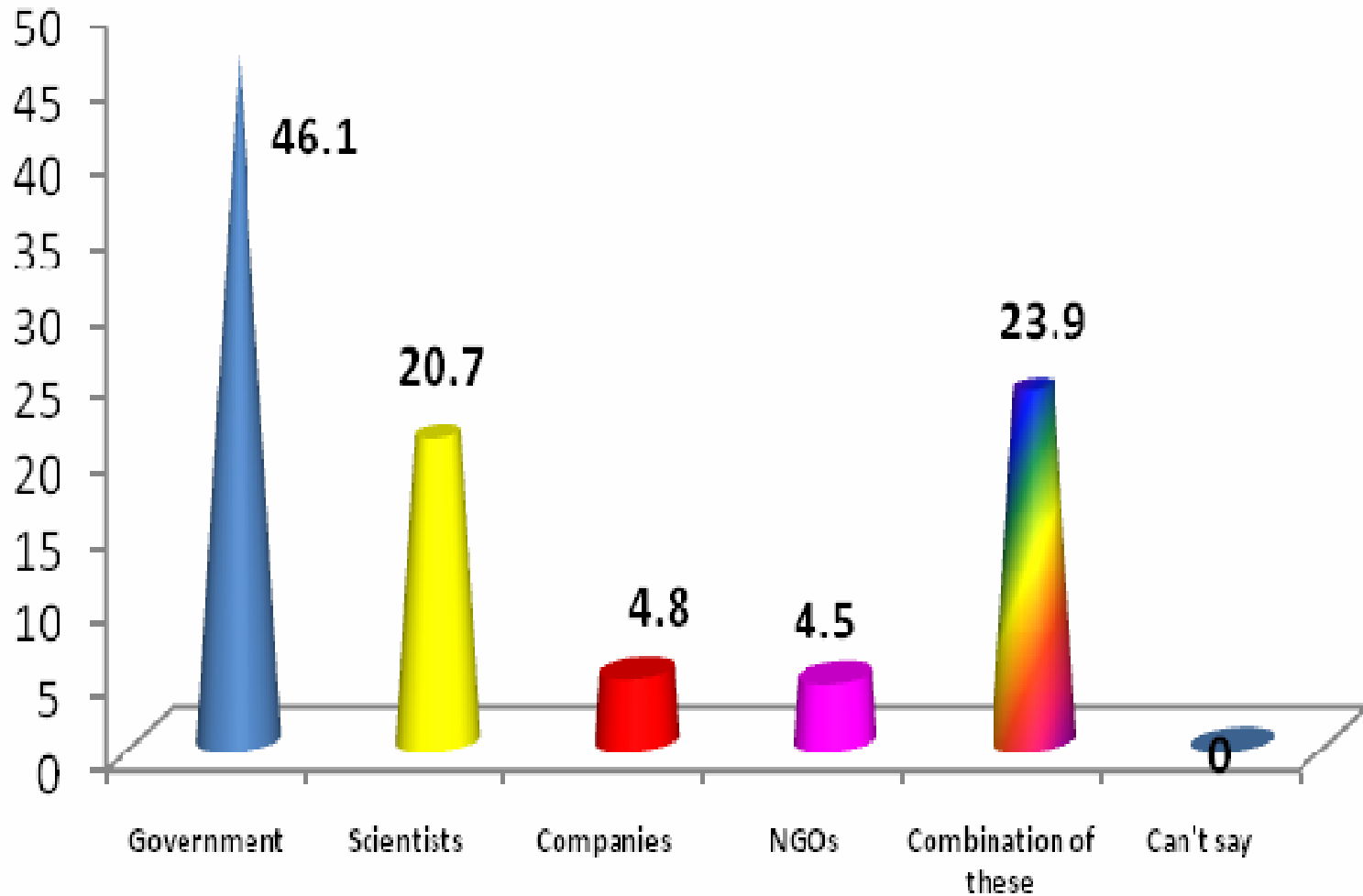
Whose testing would you trust most?



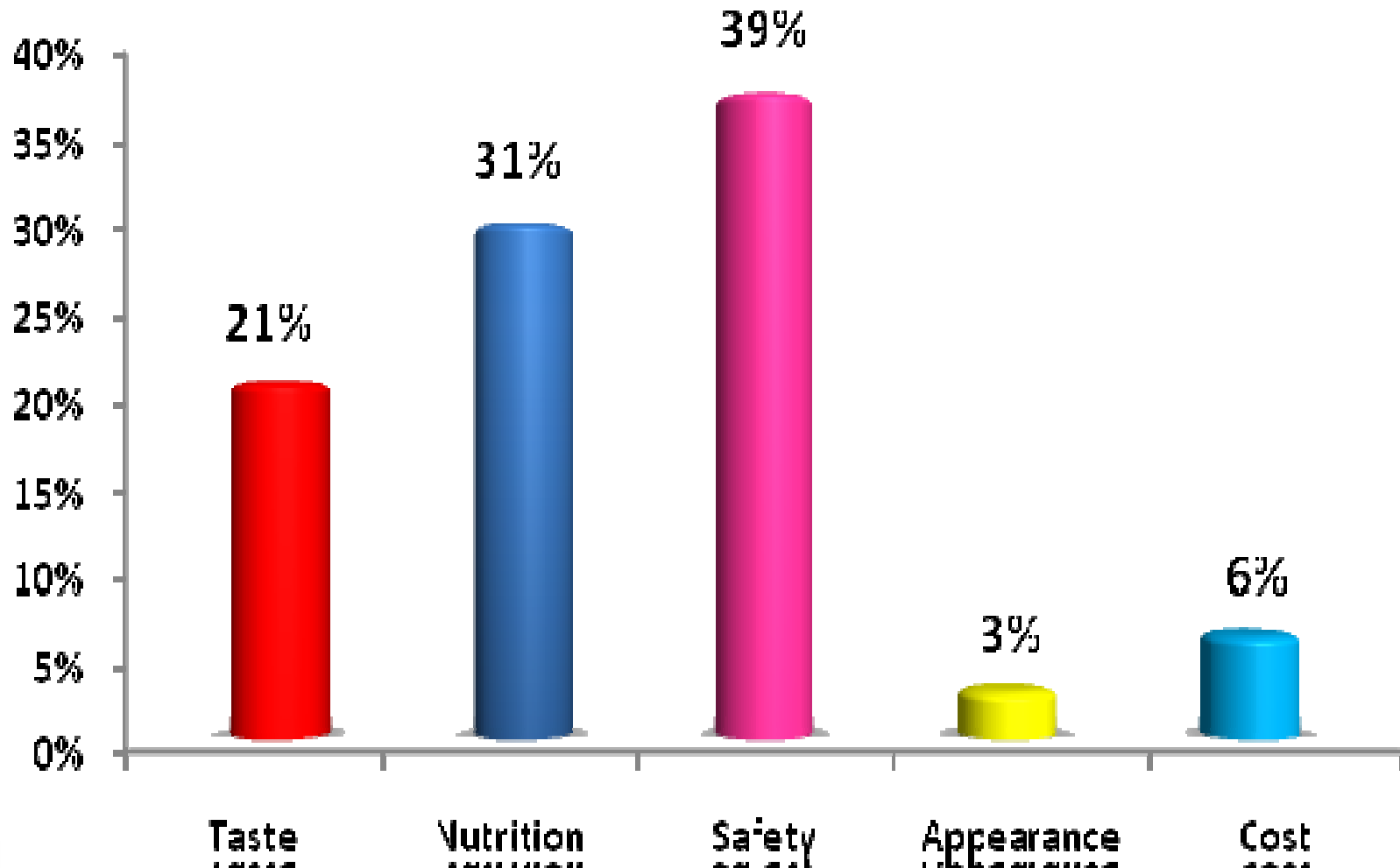
Do you think some agency should monitor the long term effects of GM food on public health?



Who should do this monitoring?



What feature of food is most important to you?



Who according to you provides the most reliable information on GM foods?

	Freq	%
Government	2046	80.2
NGOs	699	27.4
Media	1618	63.5
Companies	841	33
Scientists	1376	54

Key Findings from FGDs and Interviews

Urban Consumers

Q. What are GM Crops?

- Related to Biotechnology
example Bt cotton.
- Has something to do with putting
something artificial in vegetables
to make them grow big.
- They are unnatural.

- Tomatoes in the market are genetically modified. GM tomatoes are very nice looking, but no taste at all.
- Worried that GM foods would have negative effects.
- Willing to consume GM foods, provided all tests for safety have been conducted.
- If GM could give me freedom from pesticides, I will eat it.
- Would such products be safe for us?

- Will consume GM food if it is cheap.
- Vegetarians opposed to eating GM foods that have a gene from insects and animals.
- “I will get nightmares imagining insects running inside my stomach”.
- Most not averse to GM food with genes from other plants.
- “If it will be a better crop, I have no taboos. Educated people do not have taboos like this”.

- Non-vegetarians also opposed to GM food with genes from cows and pigs.
- Risks in the long-term to health and environment.
- Genetic engineering could lead to genetic disorders.
- Who knows what unknown evils this new technology will bring?

- Specialised knowledge needed to conduct tests to rule out risks.
- Bottom-line is we should not tamper too much with nature.

Students

- Have heard of GE but don't know how it is done.
- It involves taking gene from a resistant species and incorporating into the desired variety.
- GE gives disease resistance. We also get more production. Regarding taste, I am not so sure.

- Productivity is better in hybrids.
- Don't think that hybrid tastes good; it only increases the yield.
- Food in the villages is better in quality.
- Bt cotton, is a good technology, has reduced expenditure on insecticides.

- Bt technology will have to be very fast to cope with new problems. When one pest is suppressed, other pests are going to come.
- In Bt cotton, mealy bug has become an even worse problem. Does GM technology have the solution for that?

- When we introduce a new technology in India, it must be suited to its conditions.
- There are many contradictory studies. We do not know whom to believe.
- Media carries two kinds of articles: pro and anti GM technology.

- The cow is sacred. Eating food with cow genes would be outside the acceptable behaviour of society.
- Common man is concerned with meeting basic needs. If GM food is cheap, he will eat it.

- Before launching such products, there should be proper tests.
- We are eating food with high pesticide residue. We can survive GM food too with all its harmful effects.

Senior media

- In the government promoting GM technology, I see murder of all democratic values as GM is being pushed by eliminating all other choices by taking off from the markets hybrids, local varieties etc. which are affordable. As a journalist trying to chronicle this whole process, I find this absurd and suspicious. I suspect this is because; there is a huge margin in case of Bt seeds.(J.H.)

- It is a very controversial technology. Apart from isolated meetings and seminars, there is hardly any awareness on this issue among the general public.
- Though farmers in Punjab cultivate Bt cotton, they do not have knowledge about it. Farmers have great faith in PAU.
- If PAU asks farmers to cultivate Bt, crops they will do so. (SSB)

- While the public sector is not able to get clearance for their indigenously grown Bt seeds, Monsanto gets about 75 varieties of Bt Cotton cleared in a single meeting. There must be huge exchange of kickbacks for such approvals. (S.B.)

- I don't know how good GM technology will be? Would it eliminate the need for pesticides altogether? As far as I know, Bt is effective against only one pest, but what about other pests? (CW)

- The need of the hour is sustainable agriculture which does not destroy the land and the water.
- India requires home- grown, sustainable technologies to suit our needs rather than blindly borrowing technology from the West.

- Bt technology cannot be held solely responsible for the agriculture crisis. There was a crisis even before Bt was introduced. But now the crisis situation has reached its peak, and Bt did not alleviate the crisis.
- GM technology will not be readily accepted by urban consumers. People are not willing to experiment with another new technology and repeat their experience with pesticides. They have realized the value of organics.

- The issue is not GM technology, but making the terms of trade fair for the farmer. If the government wants farmers to adopt GM technology, then it should fix at least Rs 5,000/qt as the minimum procurement price.

- The media in Maharashtra have played an active role in promoting GM technology. The media has become “saleable”. It no more plays a neutral role but is in cahoots with the MNCs, it has played a role in promotion of Bt cotton. JH & W.

Agriculture officials

- Bt cotton was not tested properly before release because it was introduced by private companies. They took short-cuts to make more profits in a short period.
- The government machinery was not involved in any way in the release of Bt cotton to farmers.
- The companies did not provide any demonstrations of Bt cotton to the farmers before releasing the seed.

- No stake-holders were consulted on the issue of Bt cotton,
- Public institutions like the (ICAR) and agricultural universities have no role in the development of GM crops in India.
- If there were to be negative impacts from the cultivation or consumption of GM crops, there is no agency where one could register a complaint

- Stringent measures will not be implemented rigorously because the multinational companies are determined to promote their seeds at any cost; they can buy anyone in the system.
- An autonomous cell/structure like the Election Commission is the only way to implement measures stringently.