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How to Influence EU Public Opinion about Agricultural Biotechnology

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Report Highlights:

In order to educate the European Union (EU) public about biotechnology, it is important to pay attention to both the messages groups send as well as the groups themselves. Like most consumers, Europeans are concerned about the health, pesticide residues, and environmental sustainability of their food. There are organizations within the EU that command greater public trust than others, both in general and specifically for information on biotechnology, such as consumer organizations, medical professionals, and universities. A successful and sustainable effort to educate Europeans about biotechnology could benefit from spreading the particular information that Europeans care about, through means of communication they most trust. Italy presents a good place to start, as public opinion in Italy is much more favorable towards biotechnology than in much of Europe.

General Information:

The Eurobarometer report entitled *Europeans and Biotechnology in 2005: Patterns and Trends* provides the most recent data regarding European public opinion towards agricultural biotechnology. An interesting interpretation of the data indicates that public opinion in the EU towards biotechnology may not be as intractably negative as it is often portrayed. From this report, it is also possible to draw conclusions about the most effective ways to improve public opinion about biotechnology. In particular, Italians are more positive about biotechnology than many Europeans, and Italy may present uniquely valuable opportunities for improving public opinion about biotechnology in the EU. If Italians became more engaged in the issues surrounding biotechnology, they could prevent fringe groups from negatively influencing national biotech policy, ultimately leading to biotech cultivation and greater consumer choice.

Current Public Opinion

Europeans are often inaccurately portrayed as uniformly opposed to agricultural biotechnology, when in fact public opinion is fairly divided. A common sentiment is disinterest. In general, the European public does not seek out activities that demonstrate an interest in biotechnology. Almost 60% of people had never talked to anyone about biotechnology before this survey, and only 7.5% talked about it frequently. More than 83% of people had never searched the internet for information about biotechnology, and only 3.8% searched it frequently.

Part of the misperception about European public opinion is the disproportionate attention paid to fringe activists who are not representative of the general public. Most Europeans have heard of biotechnology, but they are not activists and their opinions are not very strong. In Italy, 75% of respondents were familiar with agricultural biotechnology, similar to the overall level of 80% in the EU-25. However, more than 90% of people had never attended a public meeting about biotechnology, while only 2% were frequent attendees. About 84% of respondents replied that they would not join a demonstration against biotechnology.

Current statistics about support for biotechnology in the EU are misleading because they often mask disinterest as disapproval. In reality, public opinion is not so firmly

entrenched that it cannot be changed. Table 1 shows the percentage of all respondents who actively favor biotechnology, responding that it is useful for society, should be encouraged, or is morally acceptable. Table 2 shows the opinions of the decided public. If we consider only responses for those who have opinions, excluding responses of “I don’t know,” opposition to biotechnology is actually lower than Table 1 suggests.

Table 1. Underlying Opinions About Biotech Foods: Including Undecideds				
	Is useful for society	Should be encouraged	Is morally acceptable	Would buy if approved by the relevant authorities
Genetically modified foods	40%	27%	41%	44%
<i>Source: Eurobarometer 64.3 dataset</i>				

Table 2. Underlying Opinions About Biotech Foods: The Decided Public				
	Is useful for society	Should be encouraged	Is morally acceptable	Would buy if approved by the relevant authorities
Genetically modified foods	47%	32%	48%	48%
<i>Source: Eurobarometer 64.3 dataset</i>				

Public support for biotechnology in Italy is even higher than in the rest of Europe. Italy ranked fourth in the EU behind Spain, Portugal, and Ireland for the most general support for biotech food. When asked about biotechnology in general, 65% of Italians held positive opinions. For biotech food in particular, Italy was one of seven European countries in which supporters outnumbered the opposition. Italy tied with Spain for the fifth most responses that biotech food should be encouraged, notable in that Spain cultivates biotech crops on tens of thousands of hectares.

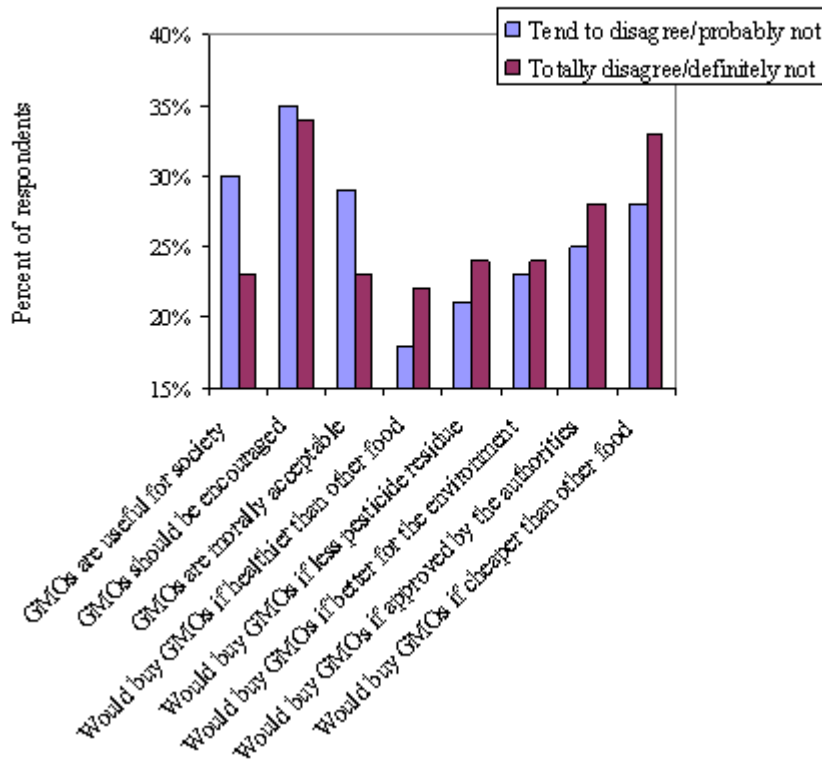
Italy was the only EU-15 country in which support for biotech food increased among the decided public from 2002 to 2005, rising from 40% to 54%. A dramatically rising percentage of Italians also believe that industry developing new products with biotechnology is good for society. The trend of rising support for biotechnology is likely to continue with the next generation. Across the EU, people in the 15-25 age group were more likely to buy biotech food than older respondents.

In 2008 the European Commission (EC) completed a study of EU consumers that supports the idea that most Europeans are not strongly opposed to biotechnology. In its study “Do European Consumers Buy GM Foods?” the EC surveyed the purchasing choices of consumers in 10 European countries. It found that most consumers do not actively avoid GM-labeled products. Ultimately, the decisions of retailers and governments to make biotech products available to consumers is the determining factor for whether or not they buy them. [1]

Personal Versus Theoretical Opinions

There is an interesting difference between negative opinions on values and negative opinions on personal actions. When asked questions about biotechnology, consumers who held negative opinions were more likely to have strongly negative opinions for questions on personal consumption and weakly negative opinions for questions on abstract values. Theoretical questions included whether or not GMOs are useful for society, should be encouraged, or are morally acceptable. Personal questions asked respondents if they would buy GMOs if they were healthier, had less pesticide residue, were better for the environment, were approved by the authorities, or were cheaper than other food. Graph 1 shows the difference in these opinions. Notice that the blue bar is higher than the red bar for theoretical questions of value, whereas the red bar is higher than blue bar for questions of personal consumption. Therefore, if groups seek to educate people about the benefits of biotechnology, it may be easier to target less-entrenched aspects of public opinion such as the theoretical usefulness and moral acceptability of biotechnology.

Graph 1. Strength of disagreement on theoretical versus personal opinions



Greater public approval for the theoretical aspects of biotechnology could have significant implications for government policy. If it is easier to change public opinion about the moral acceptability and usefulness of biotechnology, some people could become generally positive about biotechnology but still prefer to consume conventionally grown food. A government decision to approve biotech food would be in line with such a philosophy, thereby giving consumers the ability to choose between biotech and conventionally grown food according to their preferences.

The Effectiveness of Specific Arguments

Arguments about personal consumption are also important. In fact, many consumers seem willing to change their opinions if presented with new information. Table 3 compares different factors that, when emphasized, change consumer willingness to buy biotech food. [2] Health benefits, less pesticide residue, and environmental sustainability were the factors most likely to convince consumers to buy biotech food. Interestingly, when consumers focus on price, they are actually less likely to buy biotech food than they otherwise would be. When price becomes the salient factor, Europeans may

believe that price comes at the expense of quality or safety.

Table 3. Motivations for Personal Consumption of Biotech Food

	Yes	No, Probably Not	No, Definitely Not
I would buy genetically modified food if it were healthier than other food	60%	18%	22%
I would buy genetically modified food if it contained less pesticide residues than other food	55%	21%	24%
I would buy genetically modified food if it were grown in a more environmentally friendly way than other food	53%	23%	24%
I would buy genetically modified food if it were approved by the relevant authorities	48%	25%	28%
I would buy genetically modified food if it were cheaper than other food	39%	28%	33%

Depending on the overlap between people convinced by different arguments – for example, the same person could be convinced by both health and environment claims – between 23% and 46% of skeptical consumers would change their minds if presented with arguments on the health, low pesticide residues, and environmental friendliness of biotech foods. In other words, a successful public relations campaign could currently convince between 60% and 72% of decided Europeans to consume biotech foods. [3] Since this analysis excludes respondents who were entirely undecided, the actual number of potential consumers could be higher.

Sources of Information

Information about such aspects of biotechnology will likely have the greatest positive effect if it comes from trusted organizations, both in terms of their perceived value to society as well as for their information on biotechnology. It may be harder to shift public opinion about the general value of a social group than merely its trustworthiness

regarding biotechnology. Therefore, a public relations campaign that uses generally well-regarded institutions might have greater sustainability, which will be important for spreading information in the long-term.

Europeans generally believe that social institutions and professional associations are doing a good job for society. Their faith in social institutions spans a variety of disciplines from the medical profession to farmers' organizations. Public belief in their value, however, does not necessarily mean that people trust them as sources of information about biotechnology. There is a modest correlation between the belief that a group is good for society and that it can be trusted for information about biotechnology, [4] but there are notable instances when the opposite is true. Graph 2 shows the differences between the two opinions.

Graph 2. EU public opinion in 2005 that institutions are good for society and can be trusted for information about biotechnology

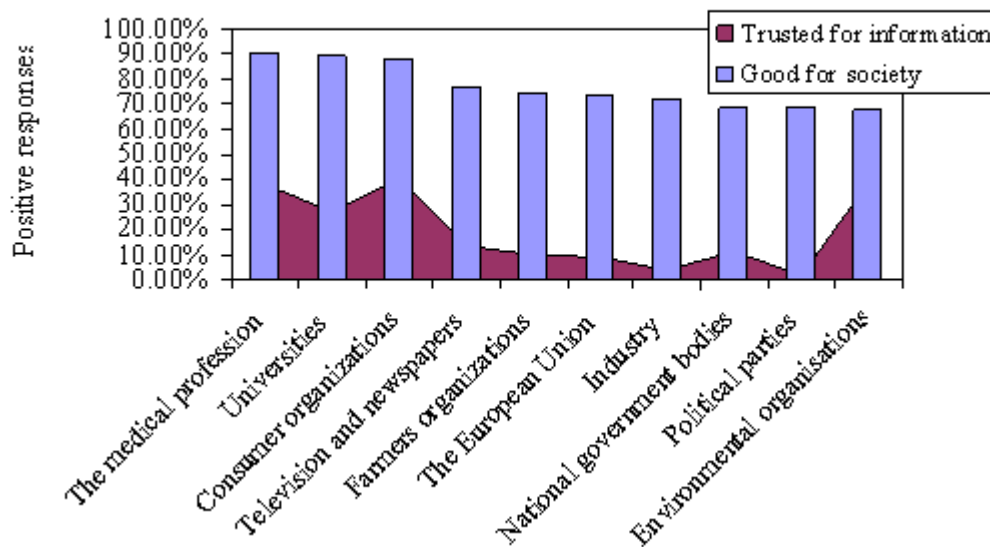


Table 4 compares public trust in various institutions as sources of information on biotechnology with the belief that these institutions are good for society. [5] Medical and consumer organizations are two of the most trusted groups, both for their value to society and for information about biotechnology. Universities also rank highly in both categories. Environmental organizations pose an interesting contradiction. They have the least support in general from Europeans; only 50% of respondents believe environmental organizations are good for society. Nevertheless, they are the second most trusted source of information about biotechnology. Interestingly, 53% of respondents believe that industry developing new products with biotechnology is good

for society, but only 4% believe that industry can be trusted for information about biotechnology.

Television and radio were the most common and among the least trusted sources of information about biotechnology. Nearly 66% of respondents had some exposure to television and radio stories about biotechnology, and a 37.4% majority had occasional exposure. Similarly, more than half of respondents had read a newspaper story about biotechnology, and a third of respondents did so occasionally. Given the existing prevalence of biotechnology in television, radio, and newspapers, combined with the relative level of public distrust, future information campaigns could be more effectively engaged elsewhere.

Table 4. EU Public Opinion that Groups are Good for Society and Can Be Trusted for Information on Biotechnology				
Group	Trusted for Information on Biotechnology		Group	Good for Society? (% yes)
Consumer organizations	41%		Medical doctors keeping an eye on the health implications of biotechnology	83%
Environmental organisations	39%		University scientists doing research in biotechnology	73%
The medical profession	38%		Consumer organisations testing biotechnological products	70%
Universities	27%		Scientists in industry doing research in biotechnology	64%
Animal welfare organisations	17%		Newspapers and magazines reporting on biotechnology	61%
International institutions	14%		Television reporting on biotechnology	59%
Television and newspapers	14%		Farmers deciding which types of crop to grow	58%

National government bodies	12%		Retailers making sure our food is safe	56%
Farmers organizations	10%		The EU making regulation about biotechnology for all EU countries	54%
The EU	9%		Industry developing new products with biotechnology	53%
Religious organizations	4%		Our Government making regulations about biotechnology	50%
Industry	4%		Environmental groups campaigning against biotechnology	50%
Political parties	2%			

Lack of faith in government is one of the primary barriers to changing EU public opinion about agricultural biotechnology. When asked how confident they were in the safety and regulatory approval systems governing genetically modified foods, only 4% of Europeans were very confident. Almost 64% of respondents were not confident in them, and of those negative responses, 39% replied that they were not confident at all. Similarly, government's role in regulating biotechnology is seen as adding the second least value to society, compared to the role of other groups such as consumer organizations that test biotech products. While 12% of people trusted national government bodies to provide information about biotechnology, less than 2% of people trusted the political parties that often make up those government bodies.

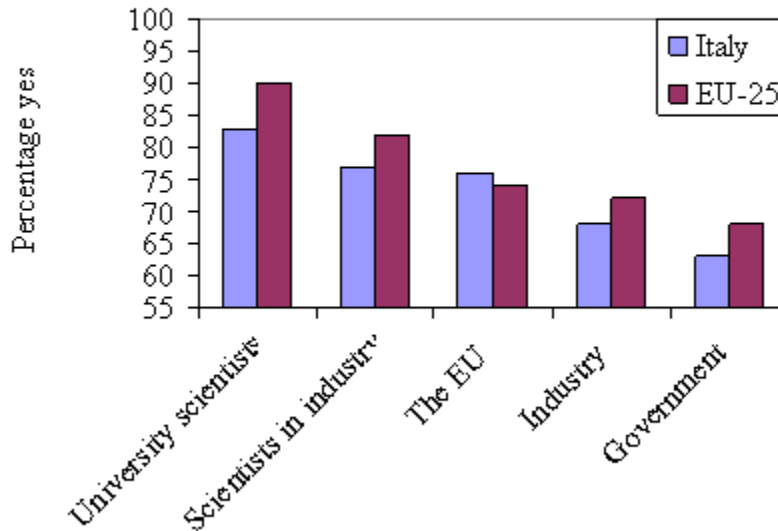
Government regulatory approval may not necessarily convince people to buy genetically modified foods if they are not already predisposed to do so. There is prevailing distrust of government regulation and information in the EU, stemming largely from the food scares of the 1990's. When asked if they would buy genetically modified food if it was approved by the relevant authorities, 48% responded yes, which directly corresponds to the underlying value opinions shown in Table 2 above. Therefore, while government approval of biotechnology may not adversely affect public opinion, it also may not significantly help it. There are limits to the successfulness of a government campaign to raise positive awareness about biotechnology.

Nevertheless, government approval is a necessary precondition to allow consumers to exercise their freedom of choice. Nearly half of Europeans and 65% of Italians are positive about biotechnology, but government bans prevent them from buying biotech food. For example, Italian Minister of Agriculture Luca Zaia refused to sign a governmental decree that would have granted Italian provinces the right to set their own parameters for biotech field trials. A minority composed of fringe groups and government officials are responsible for Italy's ban on biotech crops and food, but they do not accurately reflect public opinion.

Italian support for biotechnology is relatively high compared to the rest of the EU, and this may be thanks to the variety of institutions within Italy that promote biotechnology. Scientific and religious groups – two common sources of guidance for the Italian public – both confirm the safety and humanitarian potential of biotechnology. The European Food Safety Authority (EFSA) is the primary institution responsible for independent scientific food safety evaluation in the EU, and it has repeatedly ruled that biotech crops do not pose unique risks to human health. The Vatican has recently become a vocal advocate for biotechnology as a way to reduce hunger and poverty in Africa.

Italian public opinion might be even more favorable, however, if other groups also advocated for biotechnology. Religious organizations are among the least trusted groups for information on biotechnology, and international institutions like EFSA are only somewhat trusted. Italians are generally less inclined than other Europeans to believe that different groups are doing a good job for society, particularly university scientists, scientists in industry, industry itself, and the government. Graph 3 compares the faith Italy and the EU-25 put in different social groups.

Graph 3. Belief that different groups are "doing a good job," among the decided public



Notably, while most Europeans put more faith in the EU than in their own governments, Italians trusted the EU comparatively more than citizens of other countries. Consumer and medical organizations may have more success in educating the Italian public than religious or international institutions. According to Rita Levi Montalcini, winner of the 1986 Nobel Prize for Medicine, there is still a significant amount of superstition among Italians that accounts for the lingering opposition to biotechnology.

Conclusion

Increasing awareness about biotechnology is an important step towards improving public opinion. Respondents who had previously heard of biotech food were more likely to agree that the technology was useful and morally acceptable. However, certain types of information could more effectively improve public opinion, such as facts about the nutritional quality or environmental sustainability of biotech food. The sources of information matter as well. Medical doctors, consumer organizations, and university scientists may be in the best positions to disseminate information on biotechnology, given the trust society places in them, whereas government or industry may deliver less effective messages due to existing public doubt in their usefulness and trustworthiness. As different groups in the EU continue their campaigns to increase awareness about the benefits of biotechnology, they may find particular success in Italy,

where public opinion is already comparatively favorable towards biotechnology.

^[1] <http://www.kcl.ac.uk/schools/biohealth/research/nutritional/consumerchoice>

^[2] As a share of the decided public rather than the total public, excluding “I don’t know” responses.

^[3] Roughly 48% of decided consumers are already willing to buy biotech food pending government approval as shown in Table 2. Since government approval is a constant factor for all commercially available food, any deviation from that level shows the marginal value that consumers place on additional factors. Therefore, 12% of total decided consumers – or, 23% of consumers who are opposed to biotechnology – could be convinced by health claims. Similarly 7% of total decided consumers, or 13% of consumers opposed to biotechnology, could be convinced by claims of lower pesticide residues. Another 5% of total decided consumers, or 10% of consumers opposed to biotechnology, could be convinced by arguments of environmental sustainability.

^[4] The correlation coefficient was 0.61. A correlation is generally considered strong if it is greater than 0.8 and weak if it is less than 0.5. This graph uses opinion data only for the decided public, since consistency expectations would apply to actively held opinions.

^[5] The information is a share of total responses, including undecided responses, because it has implications for which groups should be used as sources of existing trust.