

**COLLEGE OF TROPICAL  
AGRICULTURE AND  
HUMAN RESOURCES ISSUES STUDY  
TELEPHONE INTERVIEWS  
October 2001**

**Prepared for:  
College of Tropical Agriculture and Human Resources  
University of Hawaii**

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QMark Research & Polling**

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## **CONCLUSIONS**

### **COLLEGE OF TROPICAL AGRICULTURE AND HUMAN RESOURCES**

#### **Awareness**

- Overall, 37% of those polled have heard of the College of Tropical Agriculture and Human Resources while 18% were aware of CTAHR prior to the interview
- Awareness of both increases as respondents become older and more affluent

#### **Role of the College**

- Most respondents describe the primary function or mission of the College in very general terms. A third (33%) describe the College as an institution that educates students in the study of agriculture while 24% see it as a place that teaches about human resources
- Twelve percent of those polled have requested information from the college. The likelihood of a person requesting information from CTAHR is higher among those in the upper income bracket
- Eighteen percent of those polled were aware that CTAHR conducts research and then communicates their findings to the residents of Hawaii. Awareness of CTAHR communicating its findings to the community tends to be slightly higher as respondents become older and more affluent

#### **Sources of Information**

- Respondents choose the newspaper as the best way to reach them and inform them of the types of information CTAHR likes to distribute. Ranking a distant second is television followed by the Internet
- With the exception of magazines, supermarkets and shopping malls, most of the possible informational outlets would be a good source to disseminate CTAHR's findings to them.

### **AREAS OF INTEREST**

#### **Lifestyle**

- Among the lifestyle attributes tested, education is clearly the issue of greatest importance to respondents. Ranking second is the availability of time to spend with family members with violence and crime and the cost of living just behind.



- Six of the lifestyle attributes rank in the top 10 of all issues tested. With the exception of the “availability of time to spend with family,” more respondents feel that the conditions for these lifestyle attributes (quality of education, violence and crime, cost of living, drugs, job market/ opportunities in Hawaii, traffic condition and loss of local work force to the mainland) are getting worse.

### **Environment**

- Water and air quality, along with the availability of water resources are the environmental issues that receive the highest marks in terms of overall importance with the preservation of nature wildlife or native flora and fauna rank just behind
- More than half (57% and 53%, respectively) of the respondents perceive the conditions of the “water quality” and “air quality” to be the same.
- The rest of the attributes are more perceived to be getting worse, particularly the conditions for “introduction of alien species to agriculture environment,” “availability and accessibility of land/ open space” and “global warming.”

### **Infrastructure**

- Out of the three infrastructure issues tested waste management received the highest mean score followed by the availability of public transportation and urban development
- About a third (32%) of the respondents feel that the condition for “availability of public transportation system” is getting better. There are more respondents who feel that the conditions of “waste management” and “urban development” are the same than worse

### **Agriculture/ Health**

- Among the agriculture and health issues tested, only the safe handling of food and food composition/ nutritional value receive mean scores of eight or higher
- About a third of the respondents feel that the conditions for “sustainability of small family farms” and “presence of large agricultural industries” are getting worse. The rest of the attributes are perceived to be the same or getting better, particularly the better conditions are noted in the “growth of diversified agriculture” and “growth of aquaculture industry.”

### **Political/ Leadership**

- Of the three political issues tested, government leadership and efficiency received the highest mean score followed closely by the issue of government’s support of local business



- Almost half of the respondents feel that the conditions of “government leadership/efficiency” and “government support for business” are getting worse.

### **GENETICALLY MODIFIED ORGANISMS**

- Roughly half (51%) the respondents have heard of the term GMO or genetically modified organism prior to the start of the research
- Male (56%) respondents have a slightly higher awareness of genetically modified organisms than their female (46%) counterparts
- Fifty percent associate GMO with working with genes in plants and animals, DNA. Eighteen percent describe it as not being a “natural” process. Thirteen percent think it has something to do with cloning while 12% simply view it in a negative light
- Those arguments that have the most direct impact on the general public tend to hold the most weight. Lowering the cost of food and helping to clean the environment are the two arguments that rank at the top among those tested. Right behind are potential increases in nutritional value along with creating disease resistant strains of organisms
- Generally speaking, with the exception of applications on animals, most of the arguments tested were met favorably by those sampled
- Nearly everyone (96%) polled believes further use and research involving genetically modified organisms will increase in the future



## **BACKGROUND AND METHODOLOGY**

The College of Tropical Agriculture and Human Resources (CTAHR) of the University of Hawaii has contracted QMark Research & Polling to conduct a quantitative study to identify Hawaii residents' knowledge about and attitude toward important issues that may affect our quality of life in the future. The areas of issues in this quantitative study are within the scope of CTAHR's current goals and programs as well as derived from the Phase I qualitative study, which identified the important issues and attributes measured in this report. In addition, we measured awareness and attitudes towards CTAHR and its activities.

A total of 676 telephone interviews were conducted from September 24, 2001 to October 1, 2001. These interviews, conducted in QMark's in-house calling center in our Honolulu office, used a random telephone dialing system. QMark's custom program reached unlisted and unpublished numbers as well as those listed in the telephone directories to capture a cross-section of residents statewide. All respondents were screened for Hawaii residents, and agreed and gave consent to participate in the study.

Of the total, 378 interviews were conducted with Oahu residents and approximately 100 interviews with residents of the Big Island, Maui County and Kauai (total of 298 neighbor island residents). A sample of this size (total of 676 interviews) ensures a reliability of approximately  $\pm 3.7$  percent at the 95 percent level of confidence. One must keep in mind that this level of accuracy pertains to the overall sample. A neighbor island total sample of 298 carries an error margin of  $\pm 5.7\%$  at the 95% level of confidence.

The profile of respondents is summarized in the table on the next page. The average age of all respondents is 43.7 years old. 85% of all respondents have lived in Hawaii over 10 years or more. Most adults (89%) in household work while 46% of households have children under 18 years old. Average years of education is 14.6 years. A third (32%) of all respondents is Caucasian, a quarter (23%) Hawaiian/Part-Hawaiian, a fifth (18%) Japanese. A quarter (26%) of respondents have household income between \$25,000 and \$50,000, and another quarter (23%) between \$50,000 and \$75000. Significant differences between Oahu and neighbor island residents include the average age of respondent (Oahu: 41.8, Neighbor Island: 46.2), 10 or more years of residence in Hawaii (Oahu: 88%, Neighbor Island: 82%) and ethnicity (Caucasian on Oahu: 23%, Neighbor Island: 42%; Chinese on Oahu: 6%, Neighbor Island: 2%; Hawaiian/Part Hawaiian on Oahu: 28%, Neighbor Island: 17%).



**PROFILE OF RESPONDENTS**

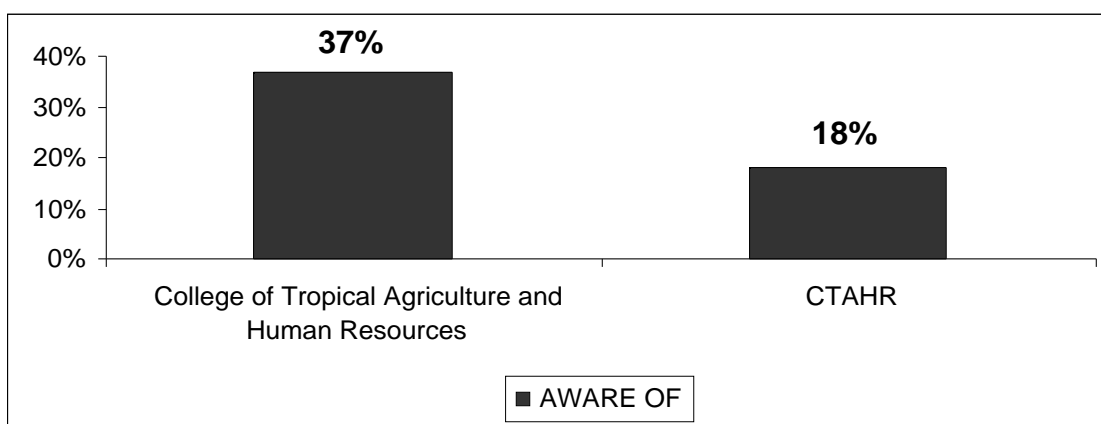
	Overall	Oahu	Neighbor Island	B. I.	Maui	Kauai
<b>INTERNET ACCESS</b>	74%	74%	74%	74%	74%	73%
<b>How Often?</b>						
More than once a day	12%	15%	8%	8%	10%	7%
Once a day	13%	14%	13%	11%	12%	15%
Once a week	15%	14%	17%	19%	14%	19%
Once a month	11%	10%	12%	7%	21%	9%
Once every two months	4%	5%	3%	4%	4%	1%
Once every six months	5%	5%	5%	5%	1%	7%
Once a year or less	7%	7%	7%	18%	3%	
Never	32%	30%	35%	27%	36%	42%
<b>AGE</b>						
18-34	32%	38%	23%	26%	27%	17%
35-54	43%	38%	50%	47%	46%	55%
55+	22%	21%	25%	27%	22%	26%
AVERAGE	43.7	41.8	46.2	46.0	43.9	48.5
<b>YEARS OF EDUCATION</b>	14.6	14.6	14.5	14.3	14.4	14.9
<b>YEARS IN HAWAII</b>						
Less than 10 years	15%	12%	17%	18%	21%	14%
10 +/ Lifetime	85%	88%	82%	80%	78%	87%
<b>CHILD UNDER 18 IN HOUSEHOLD</b>	46%	46%	47%	43%	44%	52%
<b>WORKING ADULTS IN HOUSEHOLD</b>	89%	90%	87%	87%	88%	87%
<b>ETHNICITY</b>						
Caucasian	32%	23%	42%	39%	45%	42%
Japanese	18%	18%	18%	13%	23%	17%
Chinese	4%	6%	2%	2%	4%	
Filipino	8%	9%	7%	8%	1%	13%
Hawaiian	23%	28%	17%	21%	9%	22%
African-American	1%	1%	1%		2%	1%
Other	9%	10%	9%	10%	14%	2%
Mixed	4%	5%	3%	5%	1%	4%
<b>HOUSEHOLD INCOME</b>						
Less than \$25K	12%	12%	12%	17%	4%	15%
\$25K but less than \$50K	26%	26%	26%	28%	24%	25%
\$50K but less than \$75K	23%	22%	24%	20%	24%	29%
\$75K but less than \$100K	11%	11%	11%	7%	18%	9%
\$100K +	9%	11%	8%	6%	5%	12%
<b>GENDER</b>						
Male	50%	50%	50%	50%	49%	50%
Female	50%	50%	50%	50%	51%	50%



## SUMMARY OF FINDINGS

### AIDED AWARENESS

In this section of the research respondents were asked if they had heard of CTAHR and also if they had heard of the College of Tropical Agriculture and Human Resources prior to the start of the research. Overall, 37% of those polled have heard of the College of Tropical Agriculture and Human Resources while 18% were aware of CTAHR prior to the interview.



- Awareness of both increases as respondents become older and more affluent. Among those over the age of 55, half (50%) have heard of the College of Tropical Agriculture and Human Resources. Similarly, 49% of those with household incomes in excess of \$75,000/year have also heard of the College prior to the start of the interview.

	<b>18-34</b>	<b>35-54</b>	<b>55+</b>
Aware – CTAHR	13%	18%	24%
Aware – College of Tropical Agriculture and Human Resources	28%	37%	50%
	<b>&lt; \$50K</b>	<b>\$50K-\$75K</b>	<b>\$75K+</b>
Aware – CTAHR	15%	18%	25%
Aware – College of Tropical Agriculture and Human Resources	29%	42%	49%



### UNAIDED AWARENESS OF CTAHR

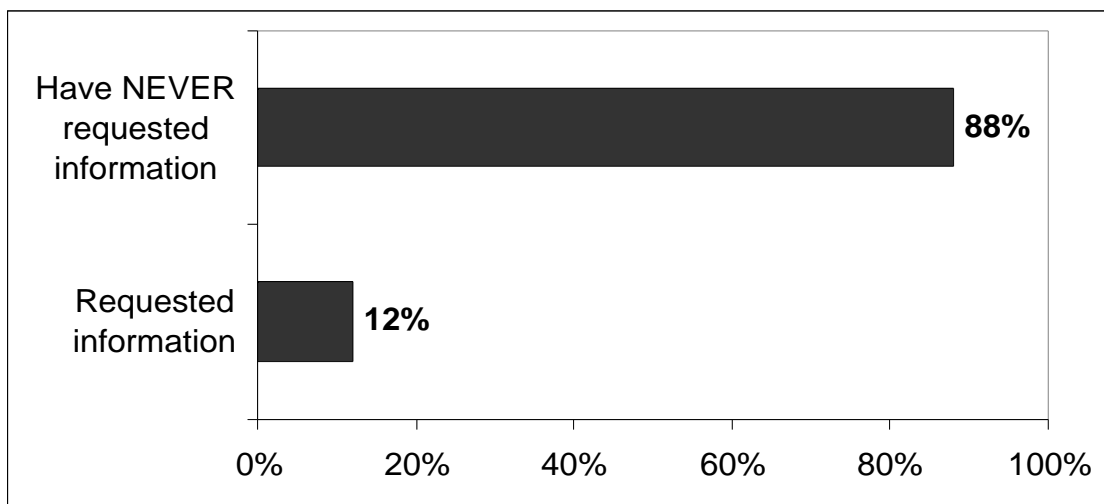
Regardless of whether they were aware of the College of Tropical Agriculture and Human Resources (CTAHR) prior to the start of the study, each respondent was asked about their general thoughts regarding the College.

TOP RESPONSES	OVERALL
Educate students in agriculture	33%
Educate students in human resources	24%
Conduct research on agriculture/ farming	15%
Answer questions about agriculture/ farming	12%
Research in general	9%
Don't know	24%

Most respondents describe the primary function or mission of the College in very general terms. A third (33%) describe the College as an institution that educates students in the study of agriculture while 24% see it as a place that teaches about human resources. Fifteen percent view the College as a place that conducts research on agriculture and farming while 12% see it as a resource for answering questions regarding agriculture and farming. One in four (24%) respondents could not name a single detail about the College when asked. No other single response garnered more than 10% of the overall sample.

### REQUEST FOR INFORMATION

Twelve percent of those polled have requested information from the College of Tropical Agriculture and Human Resources or CTAHR.

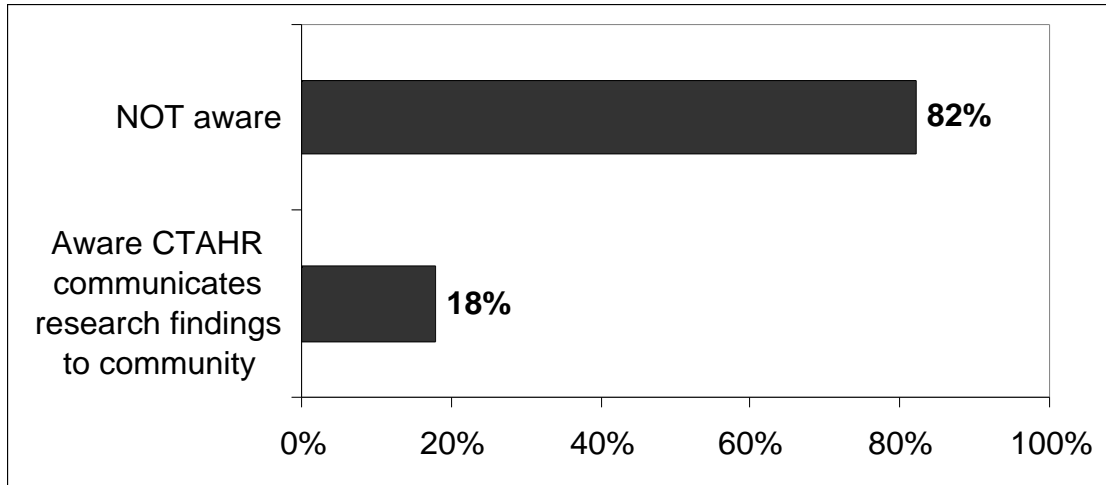


- The likelihood of a person requesting information from CTAHR is higher among those in the upper income bracket. Among those with household incomes in excess of \$75,000/year, 19% have requested information. This number drops to just 9% among households with combined incomes below \$50,000/year



### COMMUNICATES RESEARCH FINDINGS

Eighteen percent of those polled were aware that CTAHR conducts research and then communicates their findings to the residents of Hawaii.



- Awareness of CTAHR communicating its findings to the community tends to be slightly higher as respondents become older and more affluent.

	<b>18-34</b>	<b>35-54</b>	<b>55+</b>
Aware – CTAHR communicates findings to the community	11%	16%	27%
	<b>&lt; \$50K</b>	<b>\$50K-\$75K</b>	<b>\$75K+</b>
Aware – CTAHR communicates findings to the community	12%	20%	30%



## **MEDIA SOURCES**

In this section of the research respondents were presented with 11 media sources or information distribution channels and asked which would be best for them to learn about the College. In addition, respondents were asked whether each would be a good way to disseminate CTAHR's findings to them.

	<b>WHICH IS BEST</b>	<b>WOULD BE A GOOD SOURCE</b>
NEWSPAPER	45%	89%
TELEVISION	24%	83%
INTERNET	12%	74%
NEWSLETTER	9%	76%
RADIO	4%	73%
EDUCATIONAL CLASSES (seminars/wellness classes)	2%	80%
MAGAZINES	1%	54%
PUBLIC SCHOOLS	1%	78%
EXHIBITS AT STATE/COUNTY FAIRS	1%	75%
SUPERMARKETS	1%	54%
SHOPPING MALLS	0%	50%

Respondents choose the newspaper as the best way to reach them and inform them of the types of information CTAHR likes to distribute. Ranking a distant second is television followed by the Internet. No other single media source receives a share greater than 10% of the overall sample when respondents are asked for the media source they most prefer.

Generally speaking, with the exception of magazines, supermarkets and shopping malls, most of the possible informational outlets tested do quite well when tested individually.



## AREAS OF INTEREST

In this section of the research respondents were presented with 35 general issues and asked to rate each in terms of overall importance to them. They were asked to quantify their feelings using a 10-point rating scale with 10 being very important and one being very unimportant. The tables in the following sections show the mean or average score for each. The higher the mean score the greater the perceived importance.

Overall, the top 10 issues as determined by respondents tend to be those that most directly impact large segments of the populace. “Quality of education” receives the highest score with “availability of time to spend with family” ranking closely behind. Rounding out the top five are “water quality,” “safety or safe handling of food” and “violence and crime.”

TOP 10 ISSUES	MEAN 10pt Rating Scale	PERCEPTION		
		Results based only on those that rate issue as being very important to them		
		Better	Worse	Same
Quality of education	9.3	16%	39%	44%
Availability of time to spend with family	8.8	36%	27%	37%
Water quality	8.6	21%	22%	57%
Safety or safe handling of food	8.6	35%	17%	47%
Violence and crime	8.5	13%	56%	31%
Cost of living	8.5	8%	61%	30%
Personal and family finance	8.5	21%	36%	43%
Government leadership/ efficiency	8.4	17%	51%	31%
Air quality	8.4	20%	27%	53%
Drugs	8.4	9%	67%	23%

In addition to asking about importance, those respondents that rated each attribute a score of 9 or 10 were then asked their general perceptions of each issue. These individuals were asked whether they thought the issue was getting better, getting worse or staying the same. The results of which are to the right of each issue.

Over a third (39%) of respondents who rated “quality of education” 9 or 10 in importance feels that the condition for this issue is getting worse. “Availability of time to spend with family” and “safety or safe handling of food,” on the other hand, are perceived to be getting better (36% and 35%, respectively). More alarming perception is on the issues “violence and crime,” “cost of living,” “government leadership/ efficiency” and “drugs” where over half of the respondents feel that the conditions for each of these issues is getting worse.



The following tables show the scores received for each issue organized by general topic headings.

### Lifestyle

Respondents were presented with nine lifestyle-related issues and asked to rate their importance. They were asked to quantify their results using a 10-point rating scale with 10 being “very important” and one being “very unimportant.” The results below show the mean or average score attributed to each issue. The higher the mean the greater the perceived importance.

	MEAN 10pt Rating Scale	PERCEPTION Results based only on those that rate issue as being very important to them		
		Better	Worse	Same
Quality of education	9.3	16%	39%	44%
Availability of time to spend with family	8.8	36%	27%	37%
Violence and crime	8.5	13%	56%	31%
Cost of living	8.5	8%	61%	30%
Personal and family finance	8.5	21%	36%	43%
Drugs	8.4	9%	67%	23%
Job market/ opportunities in Hawaii	7.9	9%	64%	26%
Traffic condition	7.6	12%	69%	19%
Loss of local work force to the Mainland	7.1	6%	64%	29%

Among the lifestyle attributes tested, education is clearly the issue of greatest importance to respondents. The average rating is a 9.3 out of a possible 10 in terms of importance. Ranking second is the availability of time to spend with family members with violence and crime and the cost of living just behind. The lifestyle attribute receiving the lowest score in terms of importance is the loss of local work force to the Mainland.

In addition, the respondents who rated an importance score of 9 or 10 on these attributes were also asked whether they thought the issue was getting better, getting worse or staying the same.

As stated in the previous page, top six of the above lifestyle attributes rank in the top 10 of all issues tested, and, with the exception of the “availability of time to spend with family,” more respondents feel that the conditions for these attributes are getting worse. Even more respondents (over 60%) feel that the conditions for other lifestyle attributes, “Job market/ opportunities in Hawaii,” “traffic condition” and “loss of local work force to the mainland,” are also perceived to be getting worse.



## Environment

Water and air quality, along with the availability of water resources are the environmental issues that receive the highest marks in terms of overall importance with the preservation of nature wildlife or native flora and fauna rank just behind.

	MEAN 10pt Rating Scale	PERCEPTION Results based only on those that rate issue as being very important to them		
		Better	Worse	Same
Water quality	8.6	21%	22%	57%
Air quality	8.4	20%	27%	53%
Availability of water resources	8.3	19%	33%	47%
Preservation of nature wildlife or native flora and fauna	8.0	26%	38%	35%
Introduction of alien species to agriculture environment	7.7	15%	55%	30%
Availability and accessibility of land/open spaces	7.7	12%	52%	36%
Global warming	7.6	9%	62%	27%
Rural development	7.2	19%	41%	39%

When asked about the perceived condition of the “water quality” and “air quality,” more than half (57% and 53%, respectively) of the respondents who rated 9 or 10 importance feel that the condition to be the same. The rest of the attributes are more perceived to be getting worse, particularly the conditions for “introduction of alien species to agriculture environment,” “availability and accessibility of land/ open space” and “global warming.”

## Infrastructure

Out of the three infrastructure issues tested waste management received the highest mean score followed by the availability of public transportation and urban development.

	MEAN 10pt Rating Scale	PERCEPTION Results based only on those that rate issue as being very important to them		
		Better	Worse	Same
Waste management (solid waste/waste water)	8.0	20%	35%	45%
Availability of public transportation system	7.7	32%	27%	41%
Urban development	7.1	19%	37%	44%



About a third (32%) of the respondents who rated 9 or 10 importance for the “availability of public transportation system” feel that its condition is getting better. There are more respondents who feel that the conditions of “waste management” and “urban development” are the same (45% and 44%, respectively) than worse (35% and 37%, respectively).

### **Agriculture/ Health**

Among the agriculture and health issues tested, only the safe handling of food and food composition/ nutritional value receive mean scores of eight or higher.

	MEAN 10pt Rating Scale	PERCEPTION Results based only on those that rate issue as being very important to them		
		Better	Worse	Same
Safety or safe handling of food	8.6	35%	17%	47%
Food composition/ nutritional value	8.1	37%	19%	44%
Growth of diversified agriculture	7.8	45%	22%	31%
Food self-sufficiency	7.7	30%	26%	43%
Sustainability of small family farms	7.6	23%	37%	39%
Forestry/ forest management	7.5	26%	28%	45%
Growth of aquaculture industry	7.5	43%	11%	45%
Growth of food processing industry	7.4	30%	20%	48%
Niche marketing of agricultural industries	7.3	42%	20%	37%
Presence of large agricultural industries	7.2	27%	32%	40%
Growth of flower industry	7.0	34%	19%	46%
Growth of apparel industry	6.4	26%	18%	54%

Of significance in the perception of the conditions of the above attributes, about a third (37% and 32%, respectively) of the respondents who rated 9 or 10 importance feel that the two attributes, “sustainability of small family farms” and “presence of large agricultural industries,” in this set of attributes are getting worse. The rest of the attributes are perceived to be the same or getting better, particularly the better conditions are noted in the “growth of diversified agriculture” and “growth of aquaculture industry.”



### **Political/ Leadership**

Of the three political issues tested, government leadership and efficiency received the highest mean score followed closely by the issue of government’s support of local business.

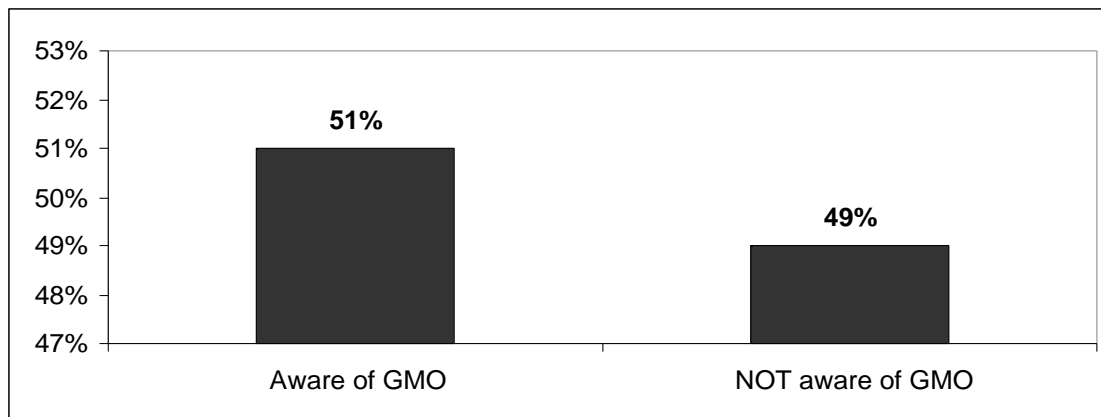
	<b>MEAN 10pt Rating Scale</b>	<b>PERCEPTION</b> Results based only on those that rate issue as being very important to them		
		<b>Better</b>	<b>Worse</b>	<b>Same</b>
Government leadership/ efficiency	8.4	17%	51%	31%
Government support for business	8.1	18%	46%	36%
Availability of time to get involved in the community	7.6	34%	30%	36%

Almost half (51% and 46%, respectively) of the respondents who rated 9 or 10 importance feel that the conditions of “government leadership/ efficiency” and “government support for business” are getting worse.



## GENETICALLY MODIFIED ORGANISM

Roughly half (51%) the respondents have heard of the term GMO or genetically modified organism prior to the start of the research.



- ❑ Male (56%) respondents have a slightly higher awareness of genetically modified organisms than their female (46%) counterparts.

Regardless of whether they were aware of the term GMO, respondents were asked what they thought the term meant to them.

Fifty percent associate it with working with genes in plants and animals, DNA. Eighteen percent describe it as not being a “natural” process. Thirteen percent think it has something to do with cloning while 12% simply view it in a negative light. No other single response exceeds 10% of the overall sample.

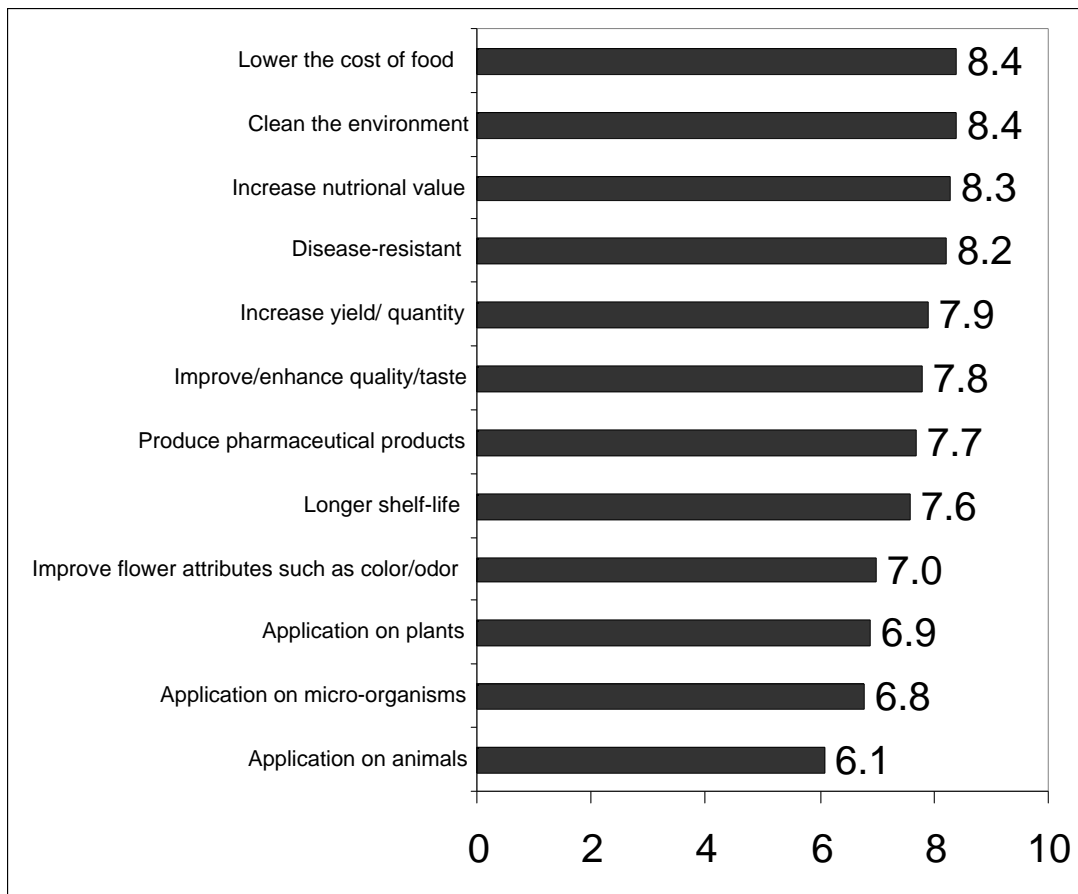
TOP RESPONSES	OVERALL
Work with genes in plants and animals/ DNA	50%
Not a natural process	18%
Clones/ cloning	13%
Bad for you/ Negative comment	12%
Increases nutritional value	9%
Increase size or productivity	9%



After giving their own definitions of what they thought GMO or genetically modified organisms meant to them each respondent was read the following statement:

*“We define genetically-modified food as those produced from plants and animals which have had their genes changed in the laboratory by scientists. All living organisms have genes written in their DNA. They are chemical instructions for building and maintaining life. By modifying the genes scientists can alter the characteristics of an organism...”*

Respondents were then read a list of 12 attributes commonly associated with genetically modified organisms and asked if knowing this fact made them feel more favorably towards GMOs. They were asked to quantify their perceptions using a 10-point rating scale with 10 being very favorable and one being very unfavorable. The table below shows the mean or average score attributed to each attribute. The higher the mean score the more positively perceived the statement is.



The primary purpose of this section is to test the supporting arguments that hold the most favor with the general public.



Clearly, those arguments that have the most direct impact on the general public tend to hold the most weight. Lowering the cost of food and helping to clean the environment are the two arguments that rank at the top among those tested. Right behind are potential increases in nutritional value along with creating disease resistant strains of organisms.

Generally speaking, with the exception of applications on animals, most of the arguments tested were met favorably by those sampled.

### **Future Use**

Nearly everyone (96%) polled believes further use and research involving genetically modified organisms will increase in the future.



## **TELEPHONE SURVEY QUESTIONNAIRE**