

UNIVERSITY OF HAWAI‘I SYSTEM ANNUAL REPORT



REPORT TO THE 2009 LEGISLATURE

REPORT FROM
THE AGRICULTURAL DIAGNOSTIC SERVICE CENTER
ON THE NEED OF HAWAI‘I'S AGRICULTURAL INDUSTRY
FOR 2009

House Concurrent Resolution No. 116, S. D. 1 (2008)

November 2008

**REPORT TO THE TWENTY-FIFTH STATE LEGISLATURE
REGULAR SESSION OF 2009
STATE OF HAWAI‘I**

**A SURVEY OF THE INFORMATION AND COMMUNICATION NEEDS OF
HAWAI‘I’S AGRICULTURAL INDUSTRY AND ASSESSMENT OF
WHETHER THE HAWAI‘I AGRICULTURE INFORMATION CENTER CAN
MEET THOSE NEEDS**

In Response to House Concurrent Resolution No. 116, S.D. 1 (2008)



**COLLEGE OF TROPICAL AGRICULTURE AND HUMAN RESOURCES
UNIVERSITY OF HAWAI‘I AT MĀNOA**

November 2008

Survey of Information Needs of Hawai'i's Agricultural Industry

Background

The purpose of this report is to summarize the results of a survey of the Information and Communication needs of Hawai'i's Agricultural Industry and to determine whether the HAIC (Hawai'i Agricultural Information Center) is adequate or can be designed to provide the necessary information. This report carries out the requested survey as set forth in House Concurrent Resolution 116 (2008), which states, *“Requesting the University of Hawai'i Agricultural Diagnostic Service Center, in Consultation with Other Public and Private Entities, to Conduct a Survey of the Information Needs of Hawai'i's Agricultural Industry, and Assess Whether the Hawai'i Agriculture Information Center Can Meet Those Needs,”* and House Resolution 99, SLH 2008, which states *“Requesting the University of Hawai'i Agricultural Diagnostic Service Center, in Consultation with Other Public and Private Entities, to Carry out a Survey of Information Needs of Hawai'i's Agricultural Industry, and Assess Whether the Hawai'i Agricultural Information Center Can Meet the Information Needs of Hawai'i's Agricultural Industry.”*

The survey is being carried out by the consulting and software development firm, MobileSoft International, LLP, of Honolulu, Hawai'i.

Methods

The methods used in this survey included the following:

1. Development of a survey plan with the support of a group of recognized experts in the agricultural community of Hawai'i (the HAIC Core Advisory Group) (Table 1).
2. Developing and administering this questionnaire at the Hawai'i Farm Bureau Federation's 61st Annual Convention held on October 16-17, 2008 in Honolulu.
3. Carrying out extensive interviews with producers selected by extension personnel and Hawai'i Farm Bureau Federation directors to cover both those likely not represented in the Hawai'i Farm Bureau Annual Conference and to obtain more specific examples of information and communication needs.

Methods 1 and 2 have been implemented for this report; Method 3 is intended to be implemented in November, since time did not permit the intensive surveys to take place before October 31, 2008, the report submittal deadline.

The questionnaire was distributed with the concurrence and good offices of the Hawai'i Farm Bureau, Executive Director Alan Takemoto and Director Dean Okimoto.

Data Analysis

Results of the questionnaire were tabulated. Simple tables and figures were developed to illustrate the distribution of responses.

Results

The Core Advisory Group (Table 1) met and discussed the overall effort to be undertaken and specifically the plan to carry out the survey and to prepare the report required by the two resolutions summarized above.

In addition focus interviews with selected producers are planned for Maui and Hawai‘i Island in the month of November 2008.

Table 1. List of Agricultural Experts comprising the Core Advisory Group for the HAIC (Hawai‘i Agricultural Information Center)

Name	Affiliation
Agent Jari Sugano	CTAHR Extension Agent – O‘ahu
Associate Dean Wayne Nishijima	CTAHR(College of Tropical Agriculture and Human Resources) Associate Dean and Associate Director of Extension
Specialist Halina Zaleski	HNFAS (Human Nutrition Food and Animal Sciences) - Specialist – Animal Scientist
Specialist Jonathan Deenik	TPSS (Tropical Plant and Soil Sciences) - Associate Specialist/Soil Fertility
Assistant Director of Technology Anthony (“Tony”) Ingersoll	NRCS (Natural Resource Conservation Service) - Assistant Director for Technology
Producer Grant Hamauchi	HFBF (Hawai‘i Farm Bureau Federation) – O‘ahu and Major Producer of Vegetables
Director Ray Uchida	Director of ADSC(Agricultural Diagnostic and Service Center) and Oahu County Administrator
Chief Executive Officer Tiger Li	Chief Executive Officer, Mobilesoft International, LLC; Systems Analyst and Software Engineer
Senior Vice President Russell Yost	Senior VP, Mobilesoft International, LLC; Professor of Soil Science, Tropical Plant and Soil Science UH Mānoa

Summary of Questionnaires obtained during the Hawai‘i Farm Bureau Federation (HFBF) Annual Convention

The HFBF Convention included representatives from the following islands: O‘ahu, Maui, Hawai‘i, Kauai, Molokai and a total of some over 60 registered participants. A total of 26 questionnaires were received and tabulated in this preliminary survey. A summary of the questionnaire results is given in the following sets of Figures 1-5.

It is important at the outset to note that this survey is not a statistical sample of producers, agribusiness suppliers and marketers, or consultants. The results are not intended to be such a sample, rather the purpose of the survey was to attempt to determine the internet usage and types of internet communication and information access in use by those attending the Hawai‘i Farm Bureau 61st Annual Convention. This information is useful as an indication of the type and frequency of internet usage of some of the most active and successful producers, agribusiness suppliers, marketers, and consultants in the State.

A higher number of Respondents accessed the internet eight times per week than any other frequency (Figure 1). This is slightly more than once a day even if Saturday is considered a work day.

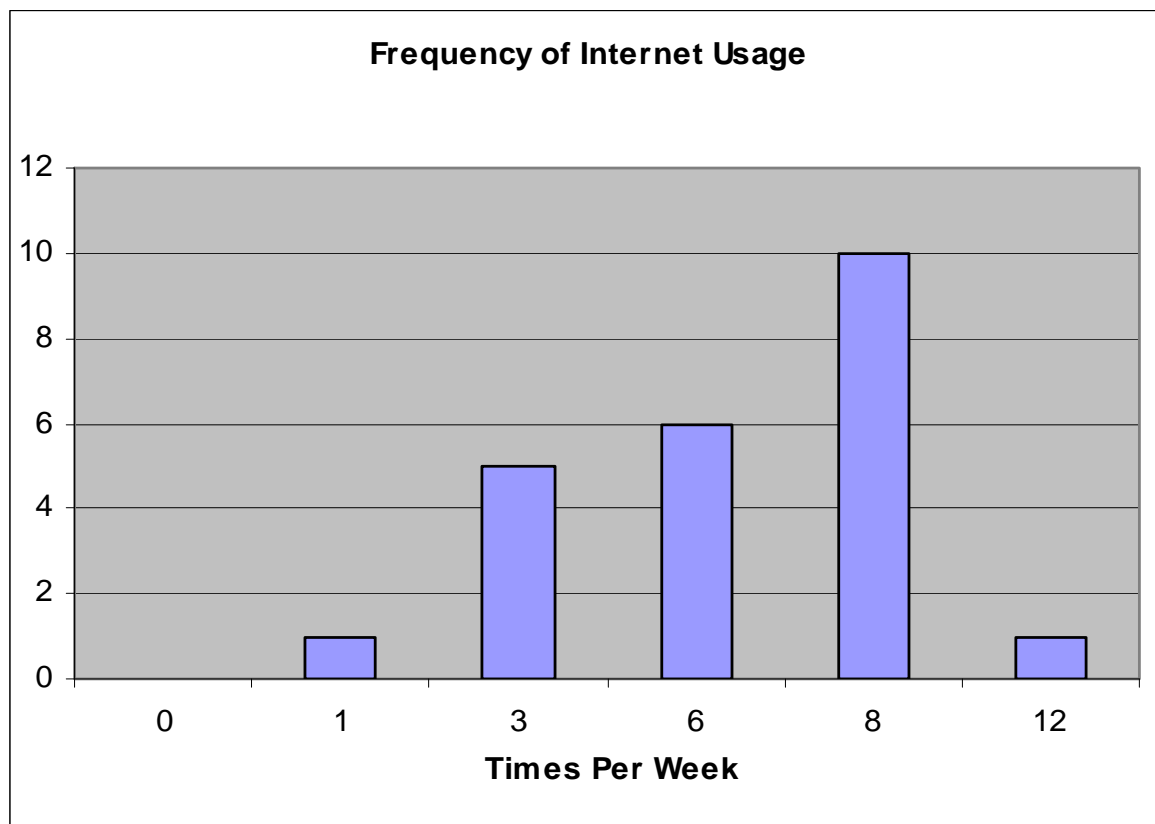


Figure 1. Responses to the question, “How many times per week do you personally or someone in your immediate management group access the web in search of information used for your agriculture related activity?”

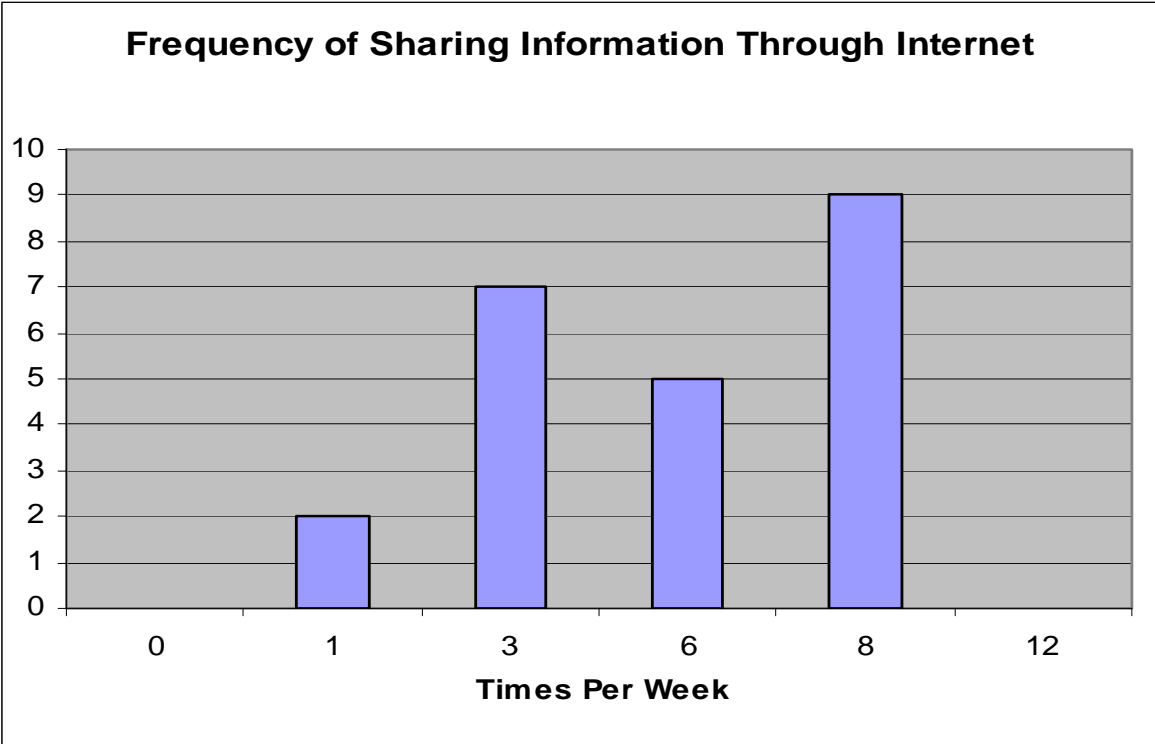


Figure 2. How many times per week do you discuss or share web or internet information about agriculture with employees, colleagues, family, or associates?

A subsequent question was posed to attempt to ascertain whether producers are using the internet in any way to mitigate the adverse effects of extreme price surges that have occurred during the recent year (Figure 3). Since the increased prices included higher priced inputs, higher costs of products, and higher costs of transportation, producers were asked whether they have used the internet to search for alternatives to these effects. The results indicated that, indeed many of the producers have been using the internet to find alternative inputs, new markets, and some financial restructuring. It seems that new transportation options either were not available or already known. Seeking new transportation options did not seem to be a topic of internet search.

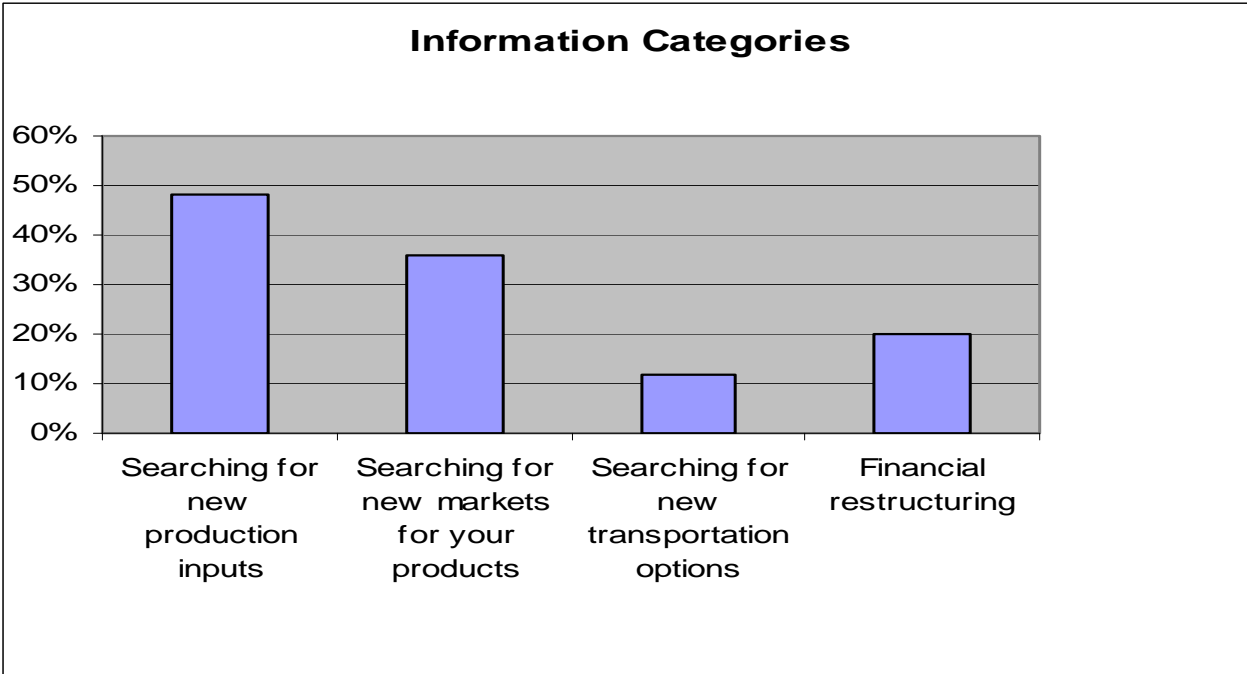


Figure 3. Responses to the question, "In what ways has the recent surge in prices of fuel, gasoline, fertilizer, and transportation affected your information and communication needs?"

Specific internet and information technology skills.

Another question was directed towards assessing the internet and computer skills (Figure 4). The results indicated that the Respondents have extensive skill using the internet, information technology, and some use advanced functions of smart phones and services such as MySpace and Facebook. Of particular interest was the large numbers of Respondents that use web browsers, email, and such electronic forms of communication. The high use clearly indicates that for these producers and agribusiness people, electronic communication may be highly acceptable.

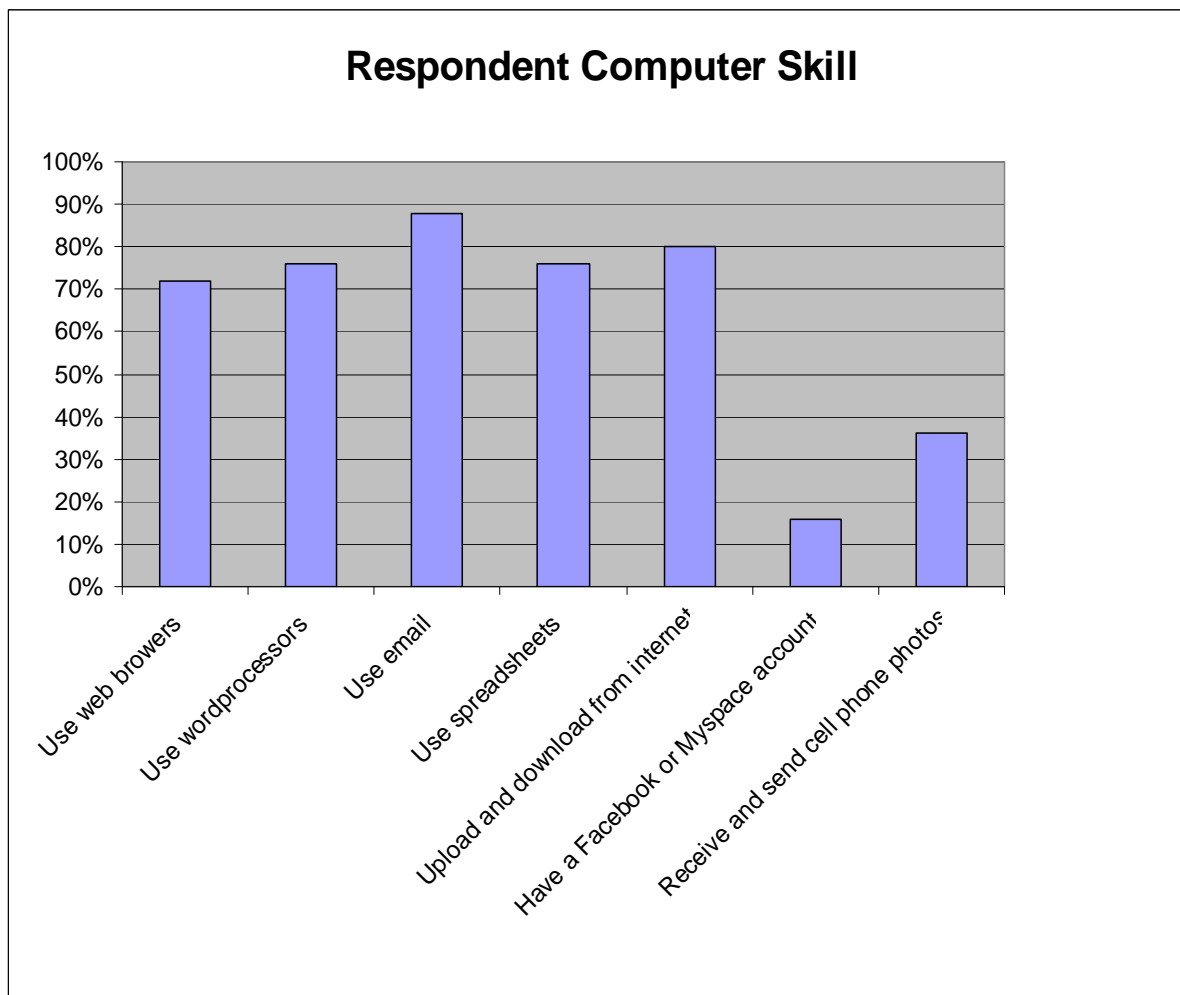


Figure 4. Computer use and skill of those answering the questionnaire.

An interesting response was obtained to the question regarding Respondents taking and sending photos using their smart phones. This is a skill that may have considerable value in identification on insect and disease. Perhaps a photo of a pest could be obtained and sent to an expert for identification and in making a recommendation for control.

It seems likely, however, that a large portion of the producers and potential clients of HAIC will also need hard copies of their information. We anticipate that additional clarification of such needs will be possible with the intensive interviews and focus group interactions proposed for Maui and Hawai'i Island in November.

Interest in specific types of information.

A subsequent question was asked to identify the types of information that seemed to be of priority to those attending the Hawai'i Farm Bureau Federation meeting. One of the most desired categories of information was the possibility of communication with experts with nearly 70% of the Respondents indicating it as a desirable type of information. It, therefore, seems that

some sort of gateway for such communication needs to be considered for the HAIC system. The second most desired type of information was Soil and Plant Analysis, which even exceeded the desirability of weather information. It seems interesting that Soil and Tissue Analyses was more frequently cited than was the topic of Fertilizer Recommendations.

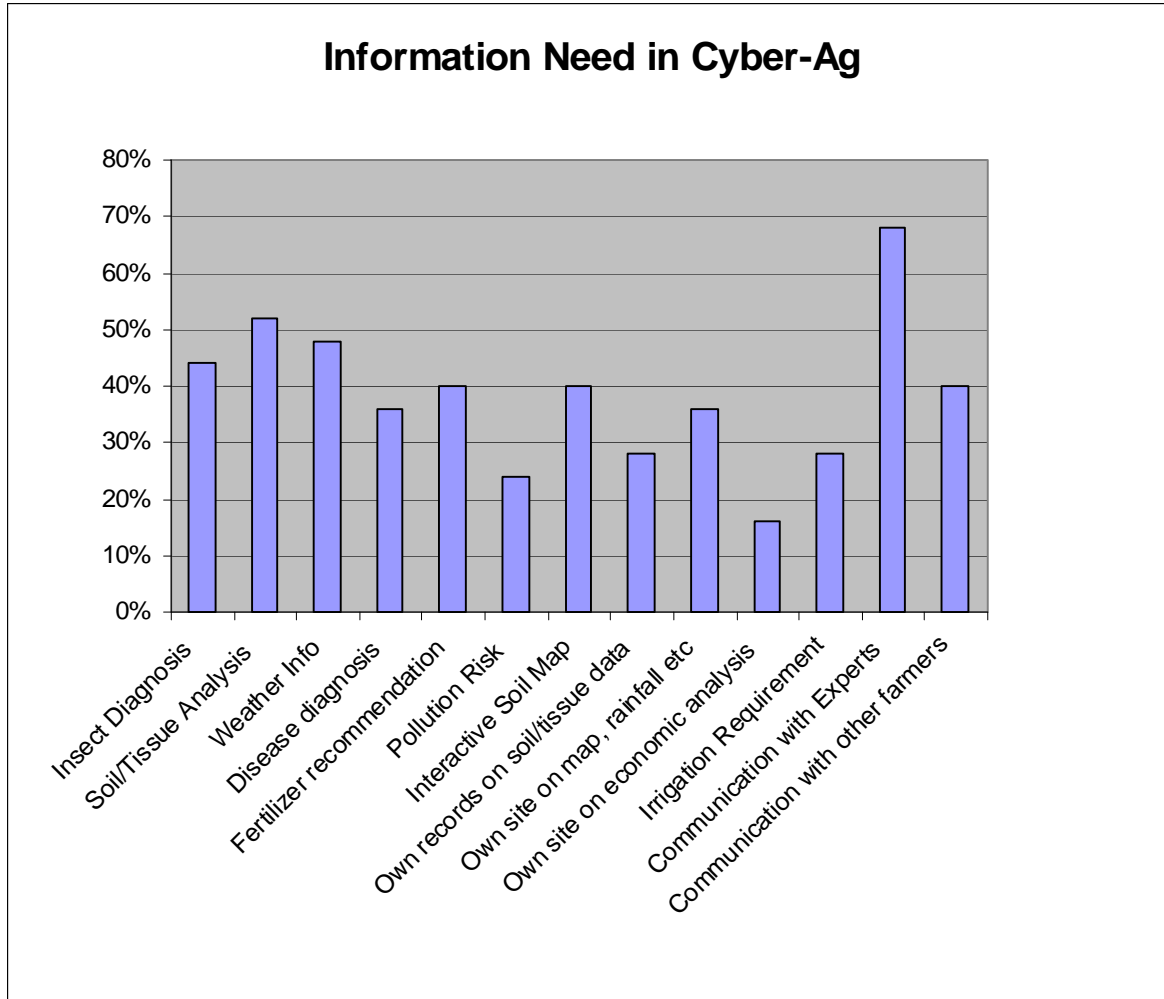


Figure 5. Responses to the question: "What are the most important ways that the College (CTAHR) and the Agricultural Diagnostic and Service Center (ADSC) can assist in providing Information Technology services to you?"

It was somewhat surprising that seeking weather information did not receive more indications of interest. It may be that users have already located the many on-line weather channels and on-line systems. Still there seems to be interest in weather information, perhaps more crop specific weather information including seasonal trends in temperature and rainfall such as the figures produced by Dr. H. Ikawa. This again needs to be discussed in the focus group interviews and intensive on-site interviews.

Interest was also relatively high in obtaining insect identification. Likely some linkage with some of the existing pest systems of the College would be useful here.

Interest was expressed in receiving fertilizer recommendations, access to interactive soil maps and in communication with other farmers. It isn't quite clear how the communication with other farmers might be implemented, but it seems there was substantial interest in the subject. It may be useful to explore the use of blogs, newsgroups, and chat rooms to meet this interest. Such communication might be an opportunity to facilitate the formation of farmer groups to join and organize to effect specific actions. We suspect that the HFBF members might be more interested and value such interaction more than many producers in part because they already belong to an organization that carries out exchanges and communications among producers, growers, and agribusiness persons.

Of interest to HAIC was the question of whether producers and growers would be interested in their own sites that would contain their specific information in a secure fashion. There seemed to be considerable interest in having its own sites with map, rainfall, and site information. This is also a capability that is anticipated to become available in the HAIC and may be a new feature of information access. The application may derive from the concepts implemented in MySpace or Facebook, whereby clients would have own "space" or site that would be secure and a place where they could organize and store large amounts of information pertinent to their enterprise. It might be a sort of a MyFarm rather than a MySpace.

Interest in testing/using a web-based information system.

Lastly, there was a question asking whether the Respondents might be interested in a web-based information system that would seek to provide the most requested services presented in Figure 5. The results, presented in Figure 6, indicate that a considerable amount of interest exists among the Respondents in testing and possibly using such a system.

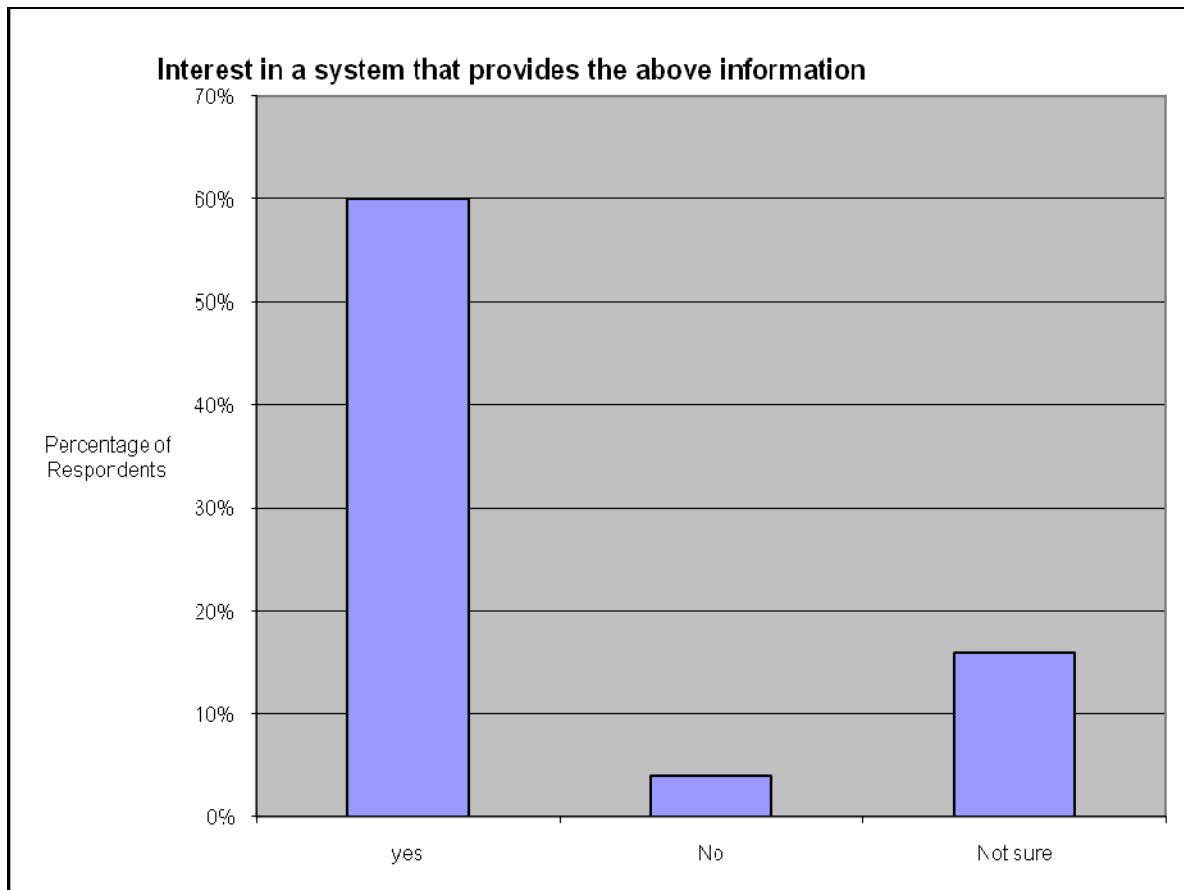


Figure 6. Responses to the question, “The College of Tropical Agriculture and Human Resources (CTAHR) and ADSC are proposing a web-based information system (Hawai‘i Agricultural Information Center - HAIC) that would provide access to the most requested of the services described in Figure 5. Would you be interested in using such a system? Yes ___ No ___ Not sure ___”. 20% of those queried did not select a response.

Summary Interpretation of the Survey

The number of responses to the questionnaire was unusually high for a distributed questionnaire, with some over 40% of those attending the Hawai‘i Farm Bureau Convention completed questionnaires. The results indicate a high level of use of the web and internet to access information of importance to agricultural enterprises among the respondents. In addition, the level of expertise in information technology such as use of the web to download, and email to communicate was greater than 50% of the Respondents.

Caution is needed, however, in interpreting the questionnaire results. The survey was a very small, non-statistical survey and thus cannot be used to infer general use and expertise among the entire agricultural community. In fact, extension personnel suggest that there are many key producers that do not themselves use the internet or the web, but rather depend on others for such access. Such results suggest, however, that even those who do not have the capability and skill to use the internet recognize its importance and have found a way to access the information,

although not themselves. The survey of the Hawai'i Farm Bureau suggests that some of the most successful and forward thinking producers, managers, and consultants in Hawai'ian Agriculture are thoroughly exploiting information technology and would be interested in testing and accessing information through a system such as the Hawai'i Agriculture Information Center.

This survey as designed and carried out by Mobilesoft International suggests that a system such as the HAIC or similar would be useful to assist and advance the agricultural industry of Hawai'i. This report is therefore submitted to the Agricultural Diagnostic and Service Center and the College of Tropical Agriculture and Human Resources to meet the requirements of the two resolutions (HCR116_SD1 and House Resolution 99). These two resolutions requested two assessments by the survey:

1. An assessment of the Information Needs of the Agricultural Industry of Hawai'i

Our assessment is that the Information and Communication needs of the Agricultural Industry have never been greater. It is clear that the most successful and forward-thinking producers and managers are fully exploiting information and communication technology to remain competitive and to deal with the new economic constraints. The specific information needs are given and summarized in the above Figures 1-5 of this report. A consensus among those discussing this survey was that providing these information needs is essential and critical in this time of extreme economic stress. The results suggest that the Agricultural Industry needs the information requested and highlighted in this survey in order to make improved decisions and management choices. Such improvements are at the basis of the very survival of the Agricultural Industry.

2. Whether the Hawai'i Agricultural Information Center (HAIC) can meet those information and communication needs.

Our assessment of whether the Hawai'i Agricultural Information Center can meet the information needs of the Hawai'i Agricultural Industry is that yes, it can. One of the reasons for this assessment is that the HAIC will be, in fact, designed around the information needs of the Agricultural Community. The HAIC will thus be sensitive and responsive to the specific and unique agricultural information and communication needs of the Hawai'i Agricultural Community.