

**DETERMINING EFFECTIVE
COMMUNICATION STRATEGIES FOR
KANSAS WHEAT PRODUCERS TO
IMPROVE WILLINGNESS TO PAY FOR
SERVICES**

by

MARSHA BOSWELL

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Approved by:

Major Professor
Dr. Vincent Amanor-Boadu

ABSTRACT

The Kansas Wheat Commission and the Kansas Association of Wheat Growers offer a number of services to Kansas wheat producers. Kansas wheat producers will be willing to pay more if they perceive they are getting more value from the Kansas wheat organizations. However, Kansas wheat producers are unaware of what the Kansas wheat organizations are doing on their behalf. It is believed that if Kansas wheat producers were more aware of what their organizations were doing on their behalf, they would be willing to contribute more. The overall objective is to improve Kansas wheat producer knowledge of Kansas Wheat activities.

A survey of Kansas wheat producers provided data about willingness to pay, importance of services, channel preferences and producer demographics.

Funds provided by the Kansas wheat assessment are used for a number of projects and programs. Current programs can be categorized into four areas: research; education, communications, and meetings supporting Kansas wheat growers; domestic market development; and international market development. When asked to rank those four areas from highest to lowest priority, respondents overwhelmingly chose research as the highest priority investment of the Kansas wheat assessment.

The survey results indicated that Kansas wheat producers were willing to pay an amount above the current level of 10 mills per bushel for the Kansas wheat assessment. The mean response was 12.42 mills. Members of the Kansas Association of Wheat Growers were willing to pay more for the assessment (15.13 mills per bushel) than non-members.

In general, radio is the preferred channel of Kansas wheat producers; however, the two most listed publications and radio stations they rely on for information about wheat were *High Plains Journal* (33%) and *Kansas Farmer* (30%), both industry publications.

Other producer demographics such as location in the state, type of producer, and acreage also affect producers' willingness to pay.

TABLE OF CONTENTS

List of Figures.....	vi
List of Tables	vii
Chapter I: Introduction	1
1.1 Research Problem.....	3
1.2 Objective.....	3
1.3 Methods	4
Chapter II: Literature Review	6
2.1 Information Delivery Channels.....	7
2.1.1 Mass Media	8
2.1.2 Interpersonal Communication	9
2.2 Willingness to pay	9
2.3 Information Valuation	10
2.4 Conclusions from Literature	11
Chapter III: Theory, Data and Analytical Tools.....	12
3.1 Theory.....	12
3.2 Number of Kansas wheat producers	12
3.3 Location of Kansas wheat producers	13
3.4 Kansas wheat production	13
3.5 Survey Method	14
Chapter IV: Results.....	17
4.1 Demographics of respondents	17
4.1.1 Members of the Kansas Association of Wheat Growers	17
4.1.2 Acreage.....	17
4.1.3 Type of producer	17
4.1.4 Location.....	18
4.2 Channel Preferences	18
4.2.1 Channel Preferences and Publications.....	20
4.2.2 Channel Preferences and Location	21
4.2.3 Channel Preferences and Acreage	23
4.2.4 Channel Preferences and Type of Producer	24
4.2.5 Channel Preferences and Membership	24

4.3 Important Programs	25
4.3.1 Importance of Programs and Acreage	25
4.3.2 Importance of Programs and Location	26
4.3.3 Importance of Programs and Type of Producer	26
4.3.4 Importance of Programs and Membership	27
4.4 Willingness to Pay	27
4.4.1 Willingness to Pay and Acreage	28
4.4.2 Willingness to Pay and Location	29
4.4.3 Willingness to Pay and Type of Producer	30
4.4.4 Willingness to Pay and Membership	30
4.5 Relationship between Willingness to Pay and Channel Preference	30
4.6 Relationship between Willingness to Pay and Important Programs	31
Chapter V: Summary and Recommendations.....	33
5.1 Summary.....	33
5.2 Recommendations	34
5.2.1 Internet.....	34
5.2.2 Radio.....	34
5.2.3 Industry publications.....	34
5.2.4 Newspapers	35
5.2.5 Other	35
References.....	36
Appendix A	38
Appendix B	42

LIST OF FIGURES

Figure 1.1: Kansas wheat acreage and assessment collected 2

Figure 3.1: District Map..... 13

**Figure 4.1: Number of Respondents Selecting Each Channel as Most Important
Source of Information 20**

Figure 4.2: Publications and Radio Stations Listed by Respondents..... 21

Figure 4.3: Publications and Radio Stations of Respondents by Location..... 23

Figure 4.4: Channel preferences and acreage 24

Figure 4.5: Willingness to pay and acreage 29

Figure 4.6: Production and willingness to pay by location..... 29

Figure 4.7: Willingness to pay and channels 31

LIST OF TABLES

Table 3.1: Five-year average Kansas wheat production by district, 2003-2007	14
Table 4.1: Number of respondents by district.....	18
Table 4.2: Number, Median, Mode of Respondents for Each Channel.....	19
Table 4.3: Important programs	25
Table 4.4: Important programs and acreage	26
Table 4.5: Important programs and location.....	26
Table 4.6: Important programs for KAWG members and nonmembers.....	27
Table 4.7: Percent and Frequency of Responses to Willingness to Pay	27
Table 4.8: Importance of programs and willingness to pay	31

CHAPTER I: INTRODUCTION

Kansas wheat farmers are represented by two organizations: Kansas Wheat Commission (KWC) and the Kansas Association of Wheat Growers (KAWG). The Kansas Wheat Commission was established in 1957 by the Kansas legislature with the mandate to conduct a campaign of grain commodity promotion and market development through research, education and information. As a state agency, the Kansas Wheat Commission wasn't allowed to lobby the government. The Kansas Association of Wheat Growers was able to fill the advocacy void that KWC was unable to fill legally. Its mandate is primarily to advocate on behalf of wheat growers in the state of Kansas and in the United States. In 2000, legislation changed the Kansas Wheat Commission from a state agency to an "instrumentality of the state." Although the Kansas Wheat Commission is now permitted to lobby, the Kansas Association of Wheat Growers continues to serve that purpose.

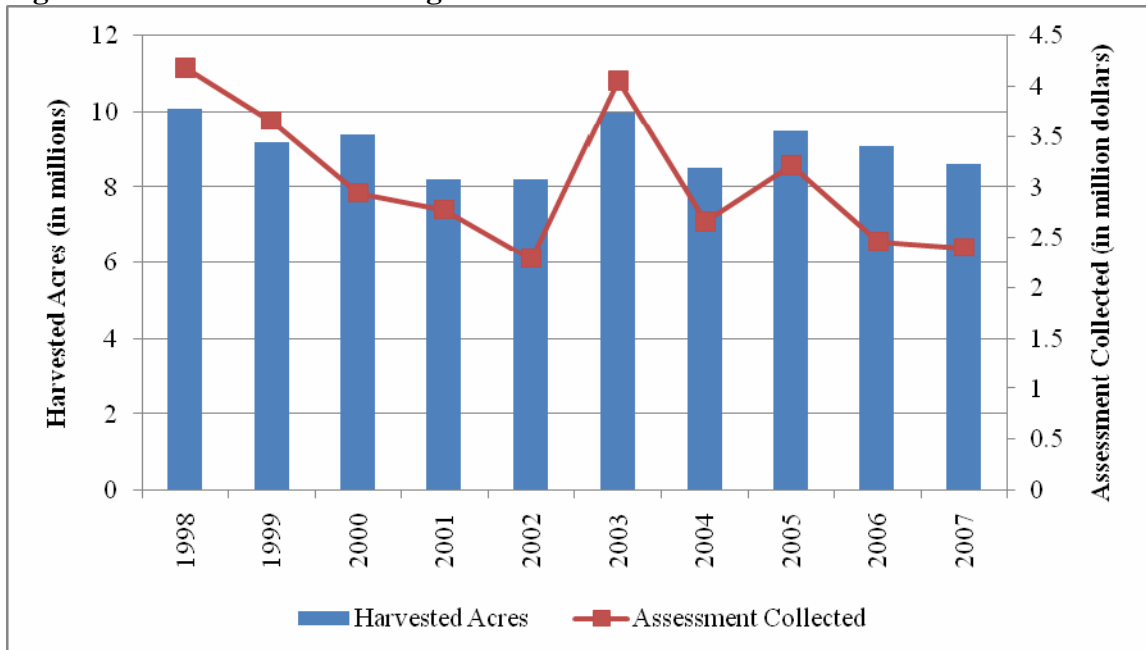
On July 1, 2005, the Kansas Wheat Commission and the Kansas Association of Wheat Growers consolidated their communication activities to enhance the efficiency of their operations. They also combined a number of other activities. The KWC and KAWG share one staff and one office, but they still remain two separate organizations.

The Kansas Wheat Commission is funded by a per-bushel assessment at the first point of sale of wheat in Kansas. When a farmer sells his or her wheat in Kansas, one penny per bushel is collected by the first purchaser and sent to the Kansas Wheat Commission via the Kansas Department of Agriculture. Even though the assessment is required at the first point of sale, the amount is fully refundable. A producer may request a refund of the assessment amount by writing to the Kansas Wheat Commission and requesting a refund voucher.

The Kansas Wheat Commission uses these funds to increase producer productivity and profitability through research, education, and domestic and international market development. Over the past two decades, the Kansas Wheat Commission has collected more than \$50 million and expended it on these activities. The bulk of the Commission’s funding goes to international market development, followed by research.

The rate of \$0.01 per bushel has been in place since 1996. Unfortunately, wheat acreage has been declining over time due to competition for row crops such as corn and soybeans. This has led to a stagnant growth in the funding available to Kansas Wheat Commission.

Figure 1.1: Kansas wheat acreage and assessment collected



Source: Kansas Agricultural Statistics Service/Kansas Wheat

In order for the Kansas Wheat Commission to continue enhancing its services to Kansas wheat producers, the Kansas Association of Wheat Growers approached the legislature to increase the assessment rate. Producers’ willingness to pay the Kansas wheat assessment is directly related to their perception of the value received from the organizations to which

they pay the assessment. Their value perception is itself influenced by their awareness of the services and products these organizations perform for them or on their behalf.

1.1 Research Problem

To continue working on behalf of Kansas wheat producers, there is a perception that an assessment increase is necessary. Because producers have the right to request their assessments back (i.e., participation is voluntary), it is important that Kansas Wheat Commission proceeds with the request in a careful manner. To date, participation in the assessment program is about 94%.

The question this research seeks to address is to ascertain whether producers see value in the services that Kansas Wheat Commission provides and determine producers' willingness to pay for such services. The Kansas wheat organizations (Kansas Wheat Commission and Kansas Association of Wheat Growers) are hoping that by determining willingness to pay, they will be able to determine the appropriate communication tools to use to help the organizations achieve their mandates.

1.2 Objective

The overall objective of this thesis is to determine the channel preferences of Kansas wheat producers to help the organizations efficiently communicate with their members. This objective is driven by the fact that we believe effective communication influences positively the perception of value and willingness to pay for services.

The specific objectives are as follows:

1. Determine the channel preferences of Kansas wheat producers.

2. Determine which programs are most important to Kansas wheat producers.
3. Evaluate the willingness of producers to pay for Kansas Wheat programs.
4. Assess the relationship between producer willingness to pay and the Kansas Wheat programs they deem important.
5. Assess the relationship between producer willingness to pay for programs and their choice of information channels.

1.3 Methods

A study of available literature will be conducted in regard to what methods of receiving information are appropriate for U.S. agricultural producers. This study will use statistical methods, econometric methods, and communication strategy to examine the relationship between producers' willingness to pay for services, their choice of information channels and the services they deem important.

Data for this study was collected in August 2007 through a survey questionnaire sent to Kansas wheat producers. Answers to questions about channel preferences, importance of programs, and willingness to pay were collected.

Analyses of this data reveal what channels Kansas wheat producers prefer and which programs are most important to Kansas wheat producers. The analyses also allow us to evaluate producers' willingness to pay for Kansas Wheat services. They allow us to assess the relationship between producer willingness to pay for services and the services they

deem important. And finally, by analyzing the data, we discovered the relationship between producer willingness to pay for services and their choice of information channels.

The next chapter focuses on a review of literature pertaining to the adoption of agricultural innovations. Information delivery channels, including both mass media channels and interpersonal communications, will be reviewed. The chapter will also discuss literature on willingness to pay and the value of information to producers.

CHAPTER II: LITERATURE REVIEW

There is a large body of research pertaining to the adoption of agricultural innovations (Feder, et al., 1985). The majority of these research efforts conclude that the adoption of agricultural innovations is dependent upon knowledge about those innovations. Without knowledge, the agricultural producer will not be able to make informed decisions about whether the innovative practice will be profitable in his or her operation. Furthermore, producers' knowledge about innovation defines their willingness to pay for such products and services.

Consider, for example, the adoption of biotechnological crops by the agricultural community in the early 1990s. Monsanto was a pioneer in the introduction of this technological innovation to producers. There were a lot of misconceptions and public concern about the use of biotechnology at that time. Some of those concerns continue today, but Monsanto invested significant resources in educating producers and the agri-food supply chain about the potential benefits of the technology to them. As a result, we saw adoption rates in biotechnology seeds grow rapidly since their introduction in the 1990s.

Kleinman and Koppenburg (1991) demonstrate how Monsanto's advertising campaign was conducted differently than typical advertising practices. Unlike most ads which encourage the receiver to purchase a product, Monsanto's ads promoted a positive view toward biotechnology. Monsanto's ads also were placed in a greater variety of media to reach a broader range of people. Monsanto attempted to define biotechnology to control the

political debate and stifle opposition. By investing money up front, Monsanto was able shape public opinion and public policy in a way that was central to the company's interests.

Literature that deals with information preferences of Kansas wheat farmers is not readily available. Instead, a literature review on information preferences of U.S. agricultural producers was conducted.

The review of the literature is structured as follows. First we look at the alternative information channels that farmers use to achieve their access to new information. We follow that with a review of the literature on willingness to pay. We conclude the chapter with an assessment of the literature on how producers or consumers determine value of information and their willingness to pay for such information.

2.1 Information Delivery Channels

We divide information channels into two broad segments: mass media and interpersonal communications. Mass media channels are those channels that are designed to reach a large audience. These channels are the mediums used to carry a message from the sender to the receiver. Mass media channels include radio, television, Web sites, and print publications, such as industry publications, newspapers, and magazines.

In contrast, interpersonal communication is direct contact between two or more individuals. Interpersonal communication includes exhibits or farm shows, producer meetings, direct contact between wheat growers, and messages transmitted through sales representatives for agricultural products and Extension agents. Interpersonal communication includes both verbal and nonverbal aspects as well as feedback.

The next two subsections are devoted to the literature on mass media and interpersonal communications.

2.1.1 Mass Media

Gloy et al. (2000) found that mass media sources were more useful to agriculture producers than personal sources. Crop/livestock specific publications were the most useful information source overall, followed by general farm publications. Maddox et al. (2003) also found that the most useful information channels were magazine articles.

Riesenberg and Gor (1989) found that growers who farmed more than 250 acres preferred publications as a method of receiving information more than farmers with acreages less than 250 acres. Younger farmers, aged 20 to 35, tended to prefer computer-assisted instruction, home study, and publications more than older farmers aged 66 and older.

Schnitkey et al. (1992) found that for marketing decisions, radio broadcasts and general farm magazines were the most used information sources. They also found that for production decisions, salespeople and farm magazines were the most used information sources. Gloy et al. (2000) position print media as more effective for detailed information, while radio broadcasts can be used for timely, easily understood information.

It is not surprising that researchers would find computer-assisted instruction and home study to be unfavorable in the late 1980s. Later research by Gloy et al. (2000) found that the Internet might be a complement rather than a substitute for traditional information sources. Research by Maddox et al. (2003) specified that nearly half of their respondents never used the Internet; however, 13.5% of respondents indicated that it was the most

important communication channel, and 44% said it was somewhat important. Ngathou et al. (2006) also found that although not used by the masses, certain groups appreciated Internet-based information. The importance of the Internet as a communication channel, from the foregoing, has been increasing as the technology becomes more commonplace and access increases in the agricultural production community.

2.1.2 Interpersonal Communication

Maddox et al. (2003) found that “high touch” is a more effective means of information transfer than “high tech” when it comes to agricultural producers in North Carolina. Riesenbergs and Gor (1989) had reached the same conclusion more than a decade earlier. This “high touch” form of communicating involved on-farm demonstrations and tours and field trips. They argued that farmers least preferred the mass media methods of computer-assisted instruction and home study. Schnitkey et al. (1992) found that for financial decisions, interpersonal contact with financial specialists was the most useful source of information.

Maddox et al. (2003) found other farmers to be a major source of information. Ngathou, et al. (2006) also found communication among producers to be one of the best sources of information disbursement. However, Gloy, et al. (2000) found that the probability that farmers perceived other farmers useful declined as age increased.

2.2 Willingness to pay

Consumption of any good, including information, creates utility for the consumer. However, consumption of information, like all other goods, requires the consumer to give up something. This thing the consumer gives up may be money or time or some other

resource that contributes to their utility. Willingness to pay is the maximum amount of money that a consumer is willing to forgo for a product or service in order to maintain the same utility after an exchange as she had before. In other words, it is the amount of money that the consumer will pay for the product or service and leave the ex ante and ex post utility unchanged. Cho-Min-Naing, et al. (2000) notes, as has been noted in many research initiatives on the subject, that what consumers say they are willing to pay may be different than what they actually pay when confronted with the decision to exchange their money for a new product or service. Norwood, et al. (2006) found that producers may be more willing to commit to a hypothetical checkoff than a real checkoff where a monetary payment is made.

2.3 Information Valuation

Roe and Antonovitz (1985) developed a money metric of a risk averse agent's willingness to pay for additional information under price uncertainty. By examining variables that affect fed cattle production, they determined that the value of perfect information was positive, indicating that producers would receive a higher price with additional information. They concluded that the usefulness of the information is dependent upon how and to what extent producers used the new information. Further research by Roe and Antonovitz (1986) concluded that having additional information increased producer utility.

Volpe National Transportation Systems Center (1998) states, "The value of information can be measured in terms of reduced costs for research, development, and operations; time savings and quicker implementation of innovations; more effective decision making; and the satisfaction of management and users." This shows the importance of information in

society. Information holds tremendous value if it allows for more effective decision making, allows businesses to meet strategic goals, and allows individuals to avoid the negative consequences associated with not knowing the information. Information can also allow businesses to reduce costs by implementing innovations.

2.4 Conclusions from Literature

Based on the foregoing, we find that information is valuable in its own right, but it has to get to those who need it for that value to be extracted. It is only when that information can reach those who believe they can use it to create value through more efficient decisions that they decide how much they are willing to pay for it. The next chapter provides a framework of the model and the data that were used to determine the willingness of Kansas wheat producers to pay for Kansas Wheat services.

CHAPTER III: THEORY, DATA AND ANALYTICAL TOOLS

3.1 Theory

Economic theory suggests that the producer of a good or service (in this case, Kansas Wheat as the producer of information dissemination service) will price that service at a point where it will deliver value and satisfaction to the target buyer (in this case, the Kansas wheat producer). Value reflects the perceived tangible and intangible benefits and costs to customers. According to Kotler and Keller (2006), “Value increases with quality and service and decreases with price, although other factors can also play an important role.” It is believed that if Kansas wheat producers perceive they are getting more value from the Kansas wheat organizations, they may be willing to pay more. On the other hand, if they perceive their money is worth more than the value they can create with the information they receive from Kansas Wheat, then they will be unwilling to pay for such services at a level above their perceived value level. This forms the theoretical foundation of the discussion in the remainder of this thesis.

3.2 Number of Kansas wheat producers

In order to get a better understanding of how to reach Kansas wheat producers, it is important to look at information about who they are. Information from the 2002 U.S. Census of Agriculture indicated that Kansas had 24,236 wheat farms. This number is about a third less than the number of wheat farms that existed in 1992, i.e., 36,518. If the rate of reduction continued at the same pace from 2002 to 2007 as it did between 1992 and 2002, it is likely the number of wheat farms would decrease to approximately 21,166 by 2007.

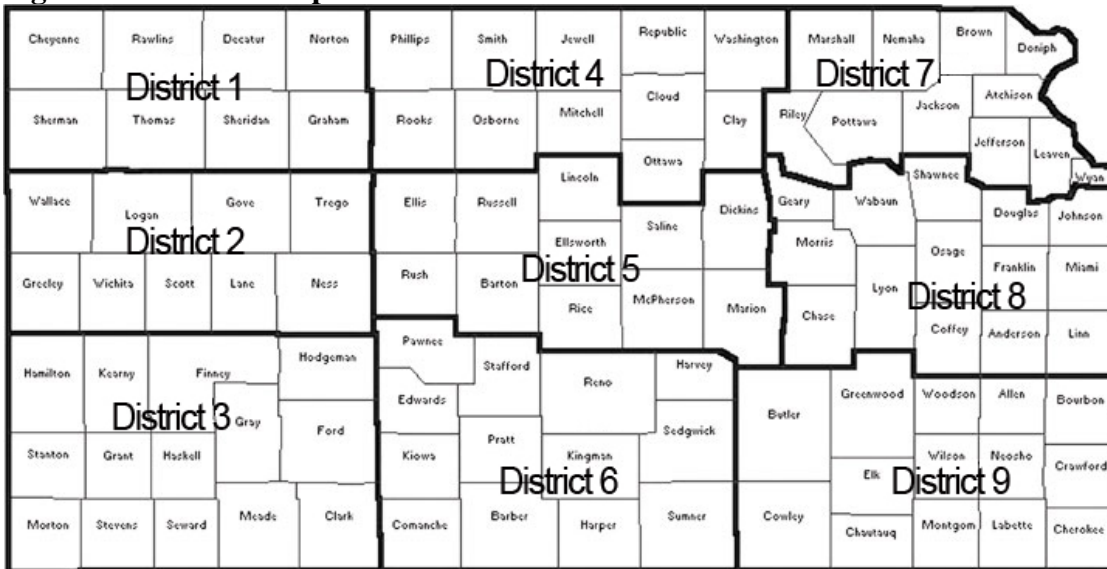
Since Kansas Wheat generates its funding from assessment of wheat produced in Kansas, the number of wheat farmers form the primary constituency of the organization’s

customers. The declining number of farms can lead to a situation where farmers are big enough to procure a lot of the collective services that Kansas Wheat provides on their own, reducing the relevance of the organization in the producer community.

3.3 Location of Kansas wheat producers

Kansas Agricultural Statistics Service divides the state of Kansas into nine crop reporting districts. Figure 3.1 shows the crop reporting districts.

Figure 3.1: District Map



Since the combined three eastern districts (7, 8, and 9) total only 11% of the total Kansas wheat production, the Kansas Wheat Commission has chosen to combine these districts into one single district.

3.4 Kansas wheat production

On average, Kansas produces about 350 million bushels of wheat each year. In most years, Kansas is the largest wheat producing state in the United States, followed by North Dakota.

Table 3.1: Five-year average Kansas wheat production by district, 2003-2007

District 1: (9%) 31.89 million bushels	District 4: (16%) 56.082 million bushels	District 7: (3%) 9.669 million bushels
District 2: (11%) 38.143 million bushels	District 5: (17%) 58.282 million bushels	District 8: (3%) 8.873 million bushels
District 3: (16%) 55.771 million bushels	District 6: (22%) 75.412 million bushels	District 9: (5%) 15.778 million bushels

3.5 Survey Method

In 2006, Kansas Wheat requested the Section 1614 Database from the U.S. Department of Agriculture. The Section 1614 Database includes records from the Farm Service Agency (FSA), the Commodity Credit Corporation (CCC), the Natural Resources Conservation Service (NRCS), and cooperative marketing associations, loan servicing agents, and designated marketing associations.

The database included payments under Title I and Title II programs in the 2002 Farm Bill. Title I is the commodity title of the 2002 Act and provides benefits generally described as income support or safety net programs administered by the FSA. Title II is the conservation title and is administered by FSA and NRCS; the conservation reserve program and other conservation programs fall under this category administered by the FSA and NRCS. The data consisted of benefits issued from October 1, 2002 through June 30, 2006. The files were current as of August 10, 2006.

Kansas Wheat conducted a target sampling of producers in the Section 1614 Database. Kansas Wheat's goal was to reach the largest producers in terms of acreage, but since production and acreage weren't part of the database, Kansas Wheat chose to send surveys to those producers who received the largest payments. Wheat producers typically receive

direct payments, which are based on their historical program payment acres and yields; therefore, payment amounts should be based on production. Kansas Wheat's goal for conducting the survey was to gather information about producers' willingness to pay an increased amount for the Kansas wheat assessment.

Since Kansas Wheat's budget allowed for no more than 15,000 surveys to be sent out, surveys were mailed to 14,988 Kansas wheat producers, based on amount of payment. Surveys were mailed to producers who received \$3,002 or more in payments because including those who received less than \$3,002 would require more than 15,000 surveys to be mailed out. The surveys were printed and mailed in July 2007. Completed surveys were due by August 15, 2007.

The survey consisted of 22 questions. A four-page insert was also included. The survey asked respondents to answer questions 1 through 4 before referring to the insert. Questions 1 through 4 referred to awareness about projects of the Kansas Wheat Commission and the Kansas Association of Wheat Growers.

The insert provided information about the Kansas Wheat Strategic Plan, and also gave a brief explanation about Kansas Wheat activities in the areas of international market development, research, producer outreach, and domestic market development. The insert provided budgetary and assessment authority information.

The survey included questions about sources relied upon for wheat information, prioritization of programs for use of the Kansas wheat assessment, willingness to support the Kansas wheat assessment and at what level, contact preferences, and demographic

information, such as location, acreage, membership, and type of farmer. A copy of the survey and the four-page insert are included in the appendix.

Of the 14,988 surveys mailed, 551 surveys were returned. This is a 3.7% response rate.

Although this response rate is very low, it was expected because of it is the traditional response rate Kansas Wheat gets in its surveys of its members. There seems to be a feeling among producers that “things always get done” and therefore there is little reason for them to actively participate in providing inputs. Despite this low response rate, we believe that there is enough representation from each of the targeted sample locations to facilitate some inferences to be drawn for application to the state.

CHAPTER IV: RESULTS

4.1 Demographics of respondents

4.1.1 *Members of the Kansas Association of Wheat Growers*

Kansas Association of Wheat Growers has a total of 522 producer members. This is equivalent to about 2.5 percent of total wheat producers in the state. However, 22 percent (123 of 551) of respondents indicated that they are members of the Kansas Association of Wheat Growers. This would seem to suggest that Kansas wheat producers who were KAWG members and received the survey were more likely than nonmembers to return the completed survey.

4.1.2 *Acreage*

The average wheat acreage in Kansas is 375 acres per farm. However, the average acreage for respondents was 955 acres. Ninety-three respondents (17%) indicated that they planted no more than 375 acres to wheat in a typical year. Two hundred eleven respondents (38%) indicated that they grow between 375 acres and 955 acres of wheat in a typical year. One hundred seventy-one respondents (31%) indicated that they grow more than 955 acres in a typical year. Seventy-six respondents (14%) didn't indicate their acreage on the survey.

4.1.3 *Type of producer*

Respondents were allowed to self identify without any definitions or constraints of what the type of producer classifications meant. The survey classed producers into full-time or part-time producers and also by their ownership structure of the property they farmed. Three hundred ninety-five respondents (72%) indicated that they considered themselves full-time farm operators. Fifty-one respondents (9%) consider themselves part-time farm operators. Forty-four respondents (8%) consider themselves retired farm operators. Fifty-six

respondents (10%) indicated that they considered themselves land owners who rent land to a farm operator. Six respondents (1%) consider themselves land managers, custodians or supervisors. Thirty-six respondents (6%) marked more than one answer. Thirty-five respondents (6%) didn't mark a response.

4.1.4 Location

The survey asked respondents to list the five-digit zip code to which the survey was mailed. The zip codes were used to determine which crop reporting district the respondent belonged. Ninety-one respondents (17%) did not list their zip codes. The responses of those who responded are presented in Table 4.1. It shows that there was a near equal distribution across the districts with the exception of Districts 4, 5 and 6 which had 14 percent, 17 percent and 16 percent respectively.

Table 4.1: Number of respondents by district

District	Number of respondents	Percent of respondents
District 1	50	9%
District 2	51	9%
District 3	51	9%
District 4	76	14%
District 5	93	17%
District 6	88	16%
Districts 7-8-9	51	9%
Did not disclose	91	17%

4.2 Channel Preferences

Respondents were asked to rank nine information sources in order of importance from 1 to 9, where 1 is most important source and 9 is the least important source. These nine information sources included radio, television, industry publications, internet, newspapers, exhibits or farm shows, sales representatives for agricultural products, other wheat growers, and Extension agents or regional Extension specialists. The results of the ranking are

presented in Table 4.2. Internet, television, and farm shows are the least important sources of information while radio and newspapers are the most important sources of information followed by industry publications. This would seem to suggest that print media is the most preferred channel for the respondents in this survey. It was a little surprising to find that extension agents and other wheat farmers were in the middle (Mode = 5) on their importance as sources of information.

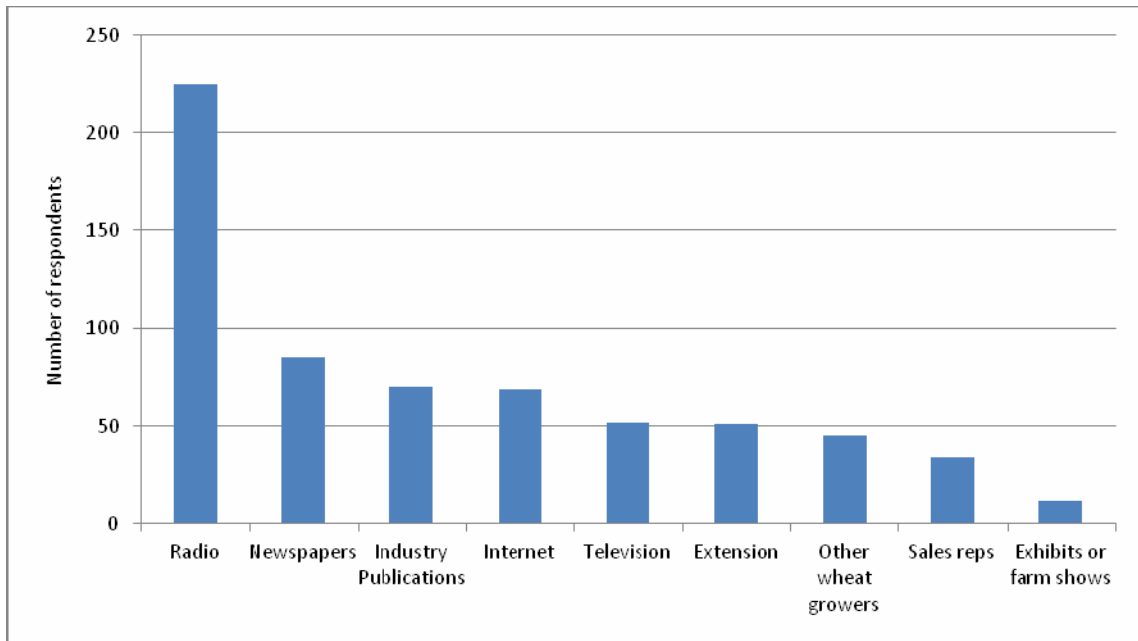
Table 4.2: Number, Median, Mode of Respondents for Each Channel

		Internet	Sales representatives for ag products	Extension agents or regional Extension specialists	Television	Newspapers	Other Wheat Growers	Industry Publications	Farm Shows	Radio
N	Valid	419	429	456	458	480	451	457	438	482
	Missing	132	122	95	93	71	100	94	113	69
Median		5.00	6.00	5.00	5.00	4.00	4.00	4.00	7.00	2.00
Mode		9	7	5	9	1	5	3	9	1

Figure 4.1 shows the number of respondents who ranked each channel as 1, the most important source of information. Two hundred twenty-five respondents (41%) indicated that they relied predominantly on radio as their information source. Eighty-five respondents (15%) indicated that newspapers were their most relied upon information source. Seventy respondents (13%) chose industry publications, while 69 respondents (13%) said the internet was their most relied upon information source. Television, Extension agents, other wheat growers, sales representatives, and exhibits each received less than 10% of the responses for most relied upon information source. Exhibits and farm shows were the least

preferred channel by all respondents, with only 12 respondents (2%) indicating that exhibits and farm shows were the most relied upon information source. Ninety-two respondents (17%) marked more than one channel as the most relied upon information source.

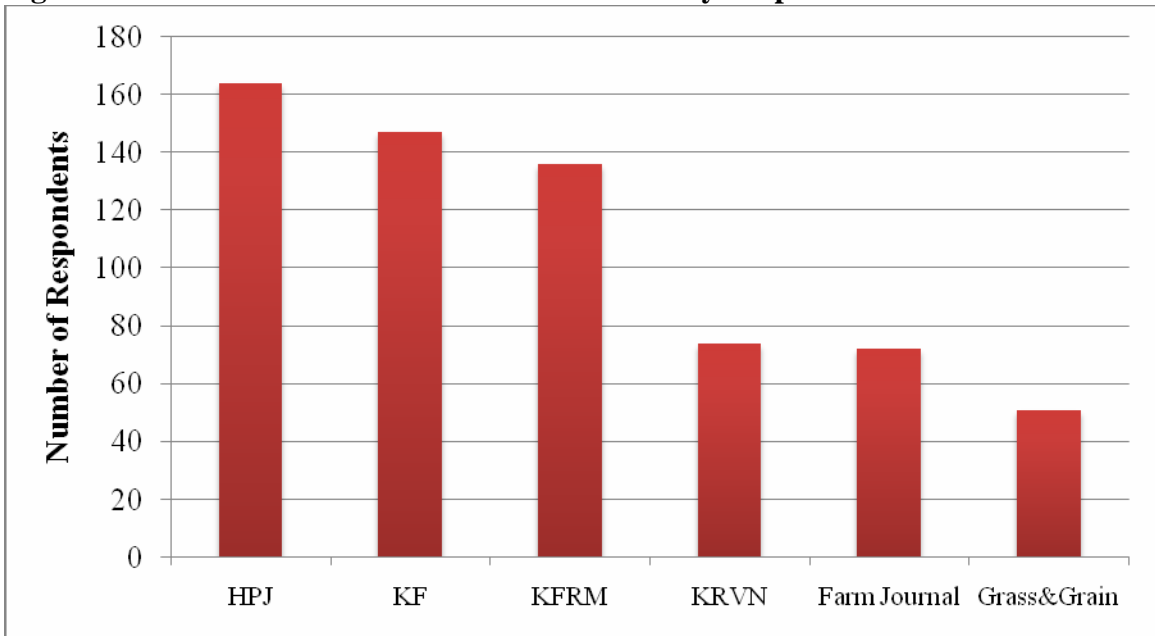
Figure 4.1: Number of Respondents Selecting Each Channel as Most Important Source of Information



4.2.1 Channel Preferences and Publications

Survey respondents were asked to list publications and radio stations they rely on for information about wheat. Figure 4.2 shows the number of respondents who chose the top six publications and radio stations.

Figure 4.2: Publications and Radio Stations Listed by Respondents



The *High Plains Journal*, an industry publication, was listed most frequently, followed by *Kansas Farmer*, also an industry publication. KFRM Radio, out of Clay Center, Kansas, was third, followed by KRVN Radio, out of Lexington, Nebraska. *Farm Journal* and *Grass & Grain*, both industry publications, rounded out the top six. No other publications and radio stations were listed more than 50 times. Since the responses were not mutually exclusive, respondents were able to choose more than one. In fact, the survey left space to list up to six responses.

4.2.2 Channel Preferences and Location

Channel preferences varied significantly by location. Since these radio stations and publications are somewhat limited to specific locations, an analysis was completed to compare publications and radio stations by location in the state, or crop reporting district.

In District 1, respondents indicated that they rely on *High Plains Journal*, followed by *Kansas Farmer* and KRVN Radio.

In District 2, respondents indicated that they rely on *High Plains Journal*, followed by *Kansas Farmer*.

In District 3, respondents indicated that they rely on *High Plains Journal*, followed by KFRM Radio, *Farm Journal*, and *Kansas Farmer*.

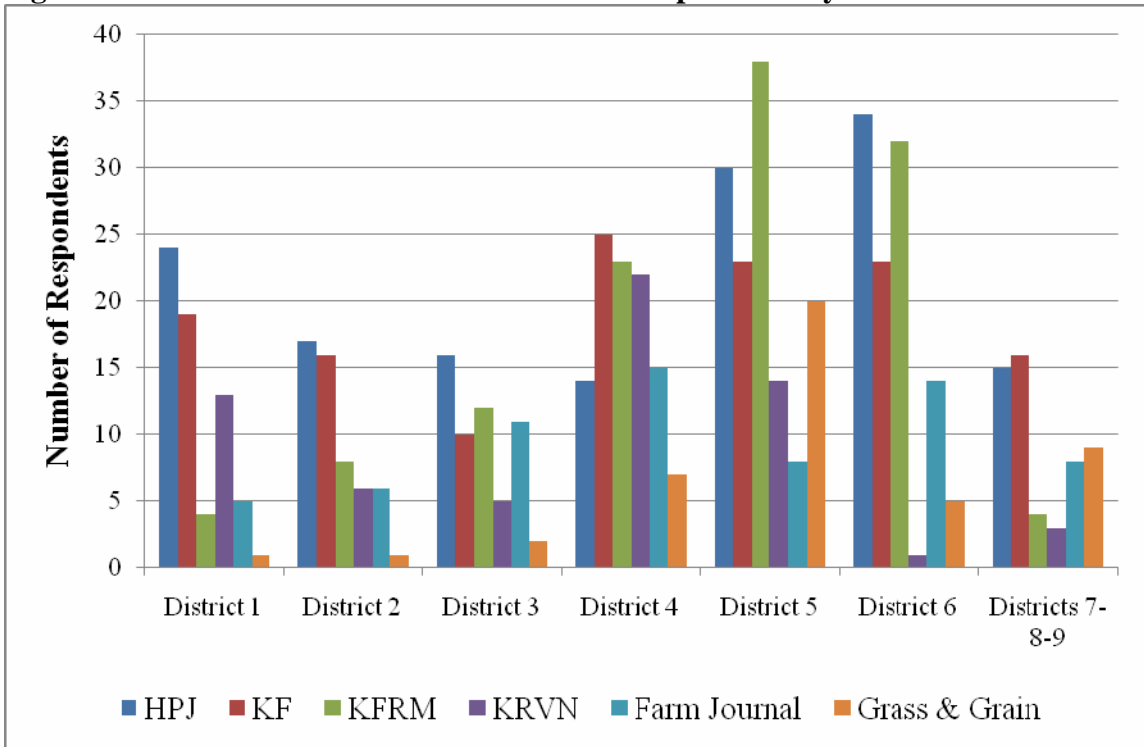
In District 4, respondents indicated that they rely on *Kansas Farmer*, followed by KFRM Radio and KRVN Radio.

In District 5, respondents indicated that they rely on KFRM Radio, followed by *High Plains Journal*, *Kansas Farmer*, and *Grass & Grain*.

In District 6, respondents indicated that they rely on *High Plains Journal*, followed by KFRM Radio and *Kansas Farmer*.

In Districts 7, 8 and 9, respondents indicated that they rely on *Kansas Farmer*, followed by *High Plains Journal*.

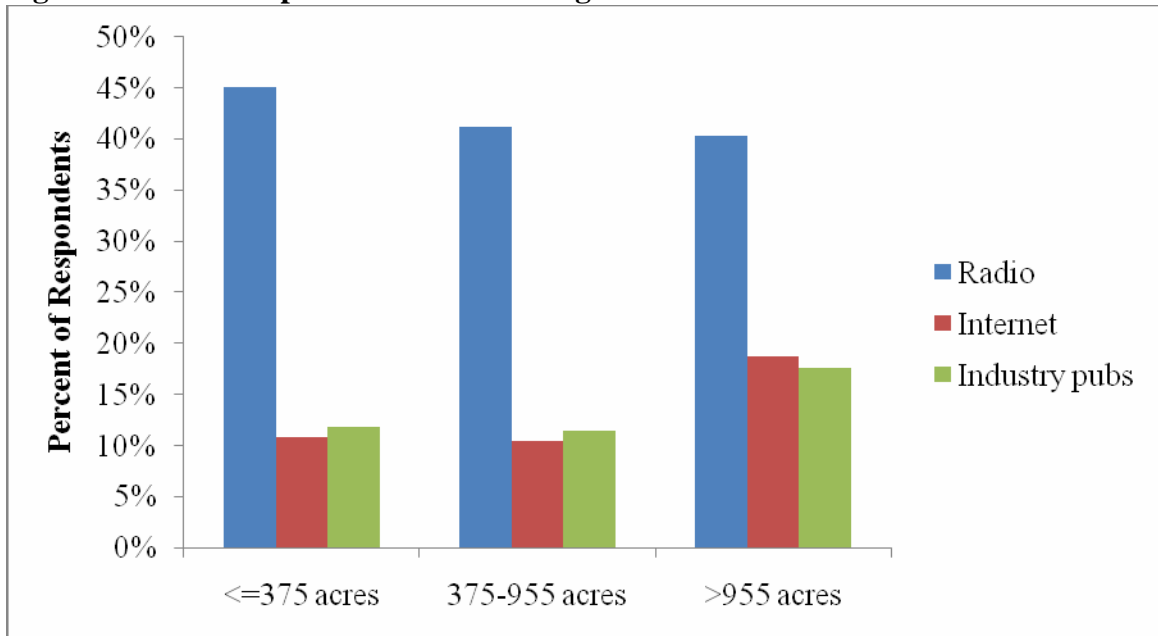
Figure 4.3: Publications and Radio Stations of Respondents by Location



4.2.3 Channel Preferences and Acreage

Although all acreage groups relied on radio more than any other source for information, reliance on radio and other channels decreased as acreage increased. Interestingly, reliance on the Internet and industry publications increased as acreage increased. Figure 4.4 shows the channel preferences of respondents in three acreage categories. Those respondents with more than 955 acres relied on industry publications and the Internet more than those with fewer acres.

Figure 4.4: Channel preferences and acreage



4.2.4 Channel Preferences and Type of Producer

There were 395 full-time producers and 156 not full-time producers. For both groups, radio was marked as the source most relied upon for information most frequently.

Full-time producers are more likely to rely on the Internet and industry publications than producers who aren't full-time. Producers who aren't full-time are more likely to rely on newspapers, other growers, and television than full-time producers.

4.2.5 Channel Preferences and Membership

For both KAWG members and nonmembers, radio was marked as the source most relied upon for information most frequently. However, KAWG members are more likely to rely on the Internet and industry publications than nonmembers. Nonmembers are more likely to rely on television, Extension, and newspapers than members.

4.3 Important Programs

Funds provided by the Kansas wheat assessment are used for a number of projects and programs. Current programs can be categorized into four areas: research into wheat varieties, production, disease/drought tolerance; education, communications, and meetings supporting Kansas wheat growers; development of domestic markets for Kansas wheat; and development of international markets for Kansas wheat.

When asked to rank those four areas from highest (1) to lowest priority (4), respondents overwhelmingly chose research as the highest priority investment of the Kansas wheat assessment.

Table 4.3: Important programs

	Average	Median
Research	1.67	1
International	2.15	2
Domestic	2.45	2
Education	3.36	4

Education, communications and meetings supporting growers was ranked the lowest priority for investment of the Kansas wheat assessment.

4.3.1 Importance of Programs and Acreage

There was no difference by farm size of respondents in the importance of services.

Research was most important to farmers of all sizes, followed by international market development, domestic market development, and education. Table 4.3 shows the mean rankings of each of the program areas by acreage category.

Table 4.4: Important programs and acreage

	Research	International	Domestic	Education
<=375 acres	1.74	3.28	2.54	1.95
375-955 acres	1.64	3.46	2.43	2.12
>955 acres	1.62	3.33	2.35	2.16

4.3.2 Importance of Programs and Location

All areas of the state value research most, followed by international, domestic and education. Table 4.4 shows the mean rankings of each of the program areas in each district.

Table 4.5: Important programs and location

	Research	International	Domestic	Education
District 1	1.66	2.13	2.29	3.26
District 2	1.45	2.22	2.45	3.44
District 3	1.73	2.27	2.40	3.29
District 4	1.68	1.90	2.47	3.58
District 5	1.67	2.13	2.65	3.35
District 6	1.59	2.10	2.40	3.56
Districts 7-8-9	1.76	2.02	2.31	3.26

Respondents in District 4 valued international market development more than other areas of the state. Producers in District 1 and Districts 7-8-9 valued domestic market development more than other areas of the state. Respondents in Districts 1 and Districts 7-8-9 valued education more than other areas. Districts 4 and 6 valued education less than other areas.

4.3.3 Importance of Programs and Type of Producer

Both full time and non full-time operators listed research as the highest priority. The only group that didn't rank research higher than any other program was the retired farmers, who listed domestic market development higher than research, and the land managers, who listed international market development as a higher priority than research.

4.3.4 Importance of Programs and Membership

KAWG members and nonmembers valued research most. Nonmembers valued research even more than KAWG members. KAWG members valued international and domestic market development more than nonmembers. Nonmembers valued education more than KAWG members.

Table 4.6: Important programs for KAWG members and nonmembers

	Research	International	Domestic	Education
KAWG members	1.72	2.09	2.34	3.44
Nonmembers	1.63	2.15	2.47	3.34

4.4 Willingness to Pay

Of the 551 respondents, 102 (18.5 percent) did not indicate at what level they are willing to contribute to the Kansas wheat assessment. The mean response for the remaining 449 respondents was 12.42 mills per bushel. The standard deviation was 5.44. Both the median and the mode were 10 mills per bushel. The minimum assessment amount was 0, and the maximum amount respondents were willing to pay was 45 mills per bushel.

Table 4.7: Percent and Frequency of Responses to Willingness to Pay

	Mills/Bushel	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	10	257	46.6	61.5	61.5
	15	69	12.5	16.5	78.0
	20	83	15.1	19.9	97.8
	25	9	1.6	2.2	100.0
	Total	418	75.9	100.0	
Missing	System	133	24.1		
Total		551	100.0		

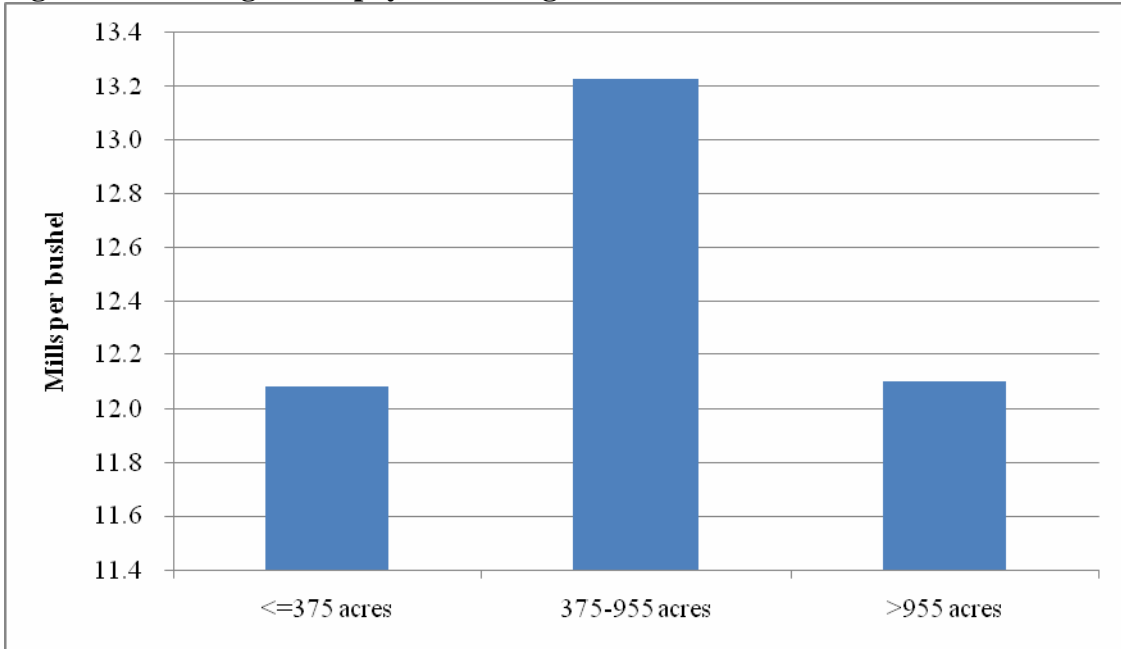
Twenty-nine respondents (6% of those who answered the question) indicated they are not willing to contribute to the Kansas wheat assessment. This is similar to the percentage of producers (6%) who currently request a refund of their Kansas wheat assessment.

About 46.6 percent of total respondents or 61.5 percent of all valid respondents (257) indicated that they were willing to continue paying the current rate of 10 mills per bushel. About 30.8 percent of total respondents or 38.6 percent of all valid respondents (161) indicated they were willing to pay more than 10 mills per bushel. Of those, about 16.5 percent of valid respondents (69) indicated they would be willing to contribute 15 mills per bushel. About 19.9 percent of valid respondents (83) indicated they would be willing to contribute 20 mills per bushel. About 2.2 percent of valid respondents (nine) indicated they would be willing to contribute 25 mills or more per bushel. Of the respondents who were willing to pay more than 10 mills per bushel, the mean response was 18.33 mills per bushel.

4.4.1 Willingness to Pay and Acreage

Respondents who indicated that they grow fewer than the state average of 375 acres in a typical year were willing to contribute only 12.08 mills per bushel. Those respondents who typically grow more than the state average of 375 acres but less than the respondent average of 955 acres were willing to contribute 13.23 mills per bushel. Those who typically grow more than 955 acres were willing to pay 12.10 mills per bushel. Respondents who grew more acres in a typical year than the state average were willing to contribute more for the Kansas wheat assessment than those respondents who grew fewer acres.

Figure 4.5: Willingness to pay and acreage

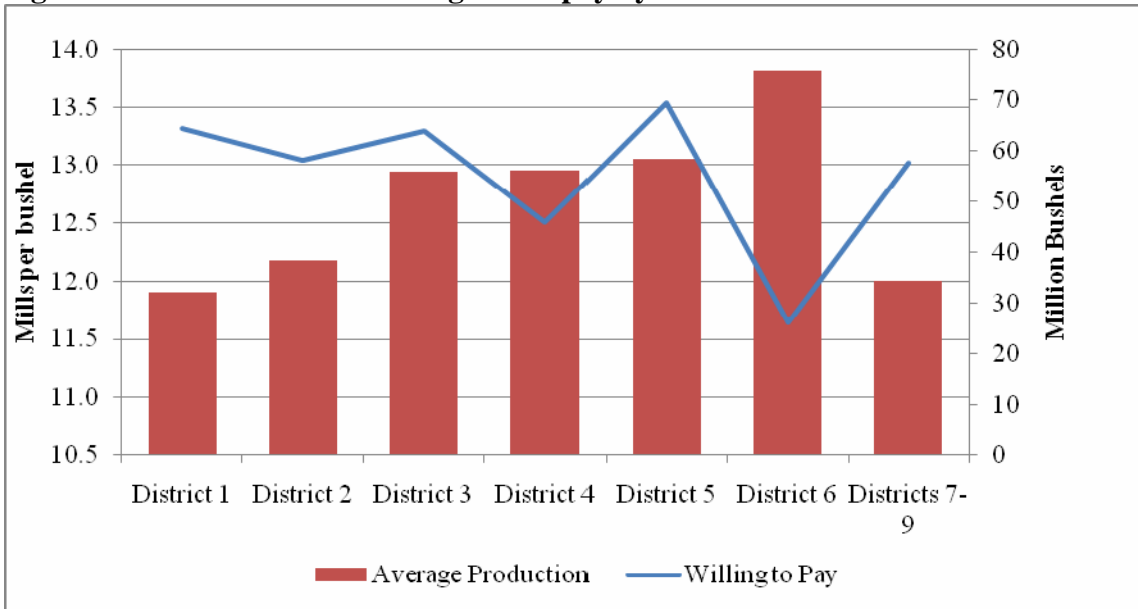


4.4.2 Willingness to Pay and Location

On average, District 6 produces more wheat each year than any other district in Kansas.

However, respondents in District 6 are willing to contribute the least amount of any district.

Figure 4.6: Production and willingness to pay by location



4.4.3 Willingness to Pay and Type of Producer

Respondents who aren't full-time farm operators are willing to pay more for the Kansas wheat assessment than full-time operators. Full-time farm operators are willing to pay an average of 12.31 mills per bushel, and others are willing to pay 12.80 mills per bushel.

4.4.4 Willingness to Pay and Membership

Respondents who are KAWG members are willing to pay more for the Kansas wheat assessment than nonmembers. KAWG members are willing to pay an average of 15.13 mills per bushel. Nonmember respondents were willing to pay only 11.52 mills per bushel.

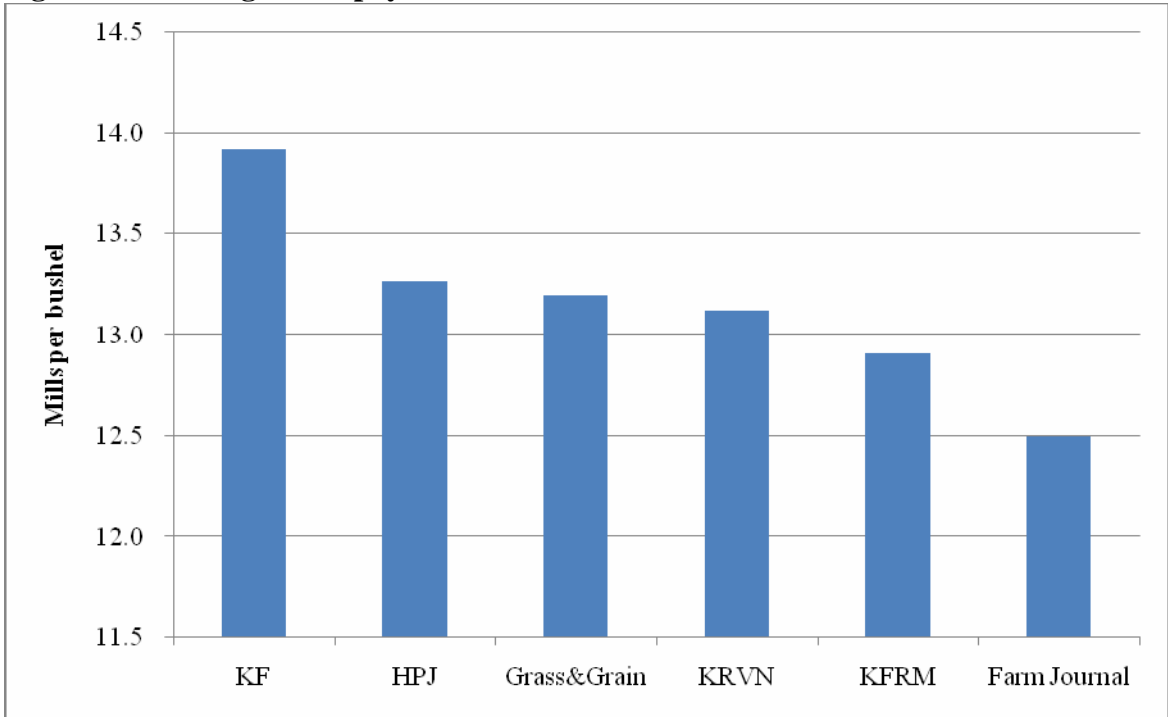
4.5 Relationship between Willingness to Pay and Channel Preference

Those respondents who rely on industry publications, newspapers, and the Internet are willing to pay more than those respondents who rely on radio, sales reps, Extension, television, and other growers.

Those respondents who rely on *Kansas Farmer* for information about wheat are willing to contribute the most for the Kansas wheat assessment, followed by *High Plains Journal* and *Grass & Grain*.

Six publications and radio stations were listed frequently by respondents. Those who indicated they rely on any of these six publications and radio stations were willing to pay more than average of all respondents, which was 12.42 mills per bushel.

Figure 4.7: Willingness to pay and channels



4.6 Relationship between Willingness to Pay and Important Programs

Those respondents which indicated that education was the highest priority for investment of the Kansas wheat assessment are willing to pay significantly more for the assessment than those who ranked other investments the highest priority.

Table 4.8: Importance of programs and willingness to pay

Program	Number of Respondents	Willingness to Pay
Research	306	12.44
International	157	12.43
Domestic	79	12.54
Education	24	14.21

The foregoing would seem to suggest that wheat producers are willing to invest another two mills per bushel in Kansas Wheat activities on average. The strength of this willingness seems to be trimodal in the sense of acreage, with producers farming less than 375 acres

and more than 955 acres being less willing to pay more than the average 12 mills per bushel while those in the middle are willing to pay a little more than the average, about 13.2 mills per bushel.

CHAPTER V: SUMMARY AND RECOMMENDATIONS

5.1 Summary

The overall objective of this thesis is to determine the channel preferences of Kansas wheat producers to help the organizations efficiently communicate with their members. This objective is driven by the fact that we believe effective communication influences positively the perception of value and willingness to pay for services.

The review of literature shows us that what consumers say they are willing to pay is usually different than what they actually pay when confronted with the decision to exchange their money for a new product or service.

Respondents ranked research as the highest priority of all Kansas wheat programs.

Education, communications and meeting supporting growers was ranked the lowest priority for investment of the Kansas wheat assessment.

The current assessment rate is 10 mills per bushel. Respondents indicated they were willing to pay more than the current rate; the mean response for willingness to pay was 12.42 mills per bushel. More wheat is produced in District 6 than any other single district; however, respondents in District 6 were willing to pay the least of any district, followed by District 4. Respondents in District 6 were willing to pay only 11.64 mills per bushel. Respondents who grew more acres in a typical year than the state average of 375 acres were willing to contribute more for the Kansas wheat assessment than those respondents who grew fewer acres.

In general, Kansas wheat producer respondents preferred to receive information through radio, followed by newspapers, industry publications and the Internet. Radio was the preferred channel of Kansas wheat producer respondents; however, the two most listed publications and radio stations they rely on for information about wheat were *High Plains Journal* (33%) and *Kansas Farmer* (30%), both industry publications.

5.2 Recommendations

Kansas Wheat should concentrate its communication efforts on radio, industry publications, newspapers and Internet.

5.2.1 Internet

Posting timely information on the Web site should be a top priority.

5.2.2 Radio

Kansas Wheat should increase its presence on KFRM Radio and other regional radio stations by paying for specific placements. In addition, Kansas Wheat should continue producing weekly radio spots and submitting them to radio stations in Kansas plus KRVN Radio in Lexington, Nebraska.

5.2.3 Industry publications

Kansas Wheat should increase the frequency of its placements in *High Plains Journal* and *Kansas Farmer*, but decrease the number of pages for each placement. This will allow Kansas Wheat to increase visibility without increasing costs.

5.2.4 Newspapers

Kansas Wheat should continue sending out news releases to Kansas newspapers on a weekly or biweekly basis. The staff should specialize these news releases for specific areas of the state to increase likelihood of use.

5.2.5 Other

Kansas Wheat should concentrate its communication efforts more highly on District 6 than other areas of the state. Instead of trying to hold numerous meetings throughout the state, Kansas Wheat should host meetings for producers or request time on the agendas of meetings hosted by other agriculture organizations in Districts 6 and 4.

Kansas Wheat should refrain from attending farm shows, unless there will be a large number of producers in attendance, especially producers from Districts 6 and 4.

Topics for Kansas Wheat news articles should concentrate on research, first and foremost, allowing producers to get information that can be used on their farms. Other topics could include international and domestic market development. However, Kansas Wheat should limit their reporting to producers about meetings and events that have already passed.

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6. Please list publications and radio stations you rely on for information about wheat.

_____	_____
_____	_____
_____	_____

For the remaining questions, you may want to refer to the enclosed insert, "Profitability through Innovation." This insert provides details about investments of the Kansas wheat assessment.

7. The Kansas Wheat organizations financially support both state-level projects and national-level projects. Most national projects are conducted through U.S. Wheat Associates, National Association of Wheat Growers, and Wheat Foods Council. Which level is more important to you as a wheat producer? Please mark only one answer.

- State-level projects are more important.
- National-level projects, conducted through national wheat organizations, are more important.

Comments: _____

8. Please rank the following investments of the Kansas wheat assessment from 1-4, with 1 being the highest priority.

- ___ Research into wheat varieties, production, disease/drought tolerance.
- ___ Education, communications, meetings supporting Kansas wheat growers.
- ___ Development of domestic markets for Kansas wheat.
- ___ Development of international markets for Kansas wheat.

9. Please rank the following **international investments** from 1-7, with 1 being the most important and 7 the least important.

- ___ U.S. Wheat Associates
- ___ Trade Teams in Kansas
- ___ Buyers' conferences
- ___ International Grains Program at KSU
- ___ Crop Quality Testing
- ___ Special events and recognition
- ___ Biotechnology education

Comments? _____

10. Please rank the following **research investments** from 1-9, with 1 being the most important and 9 the least important.

- ___ Basic genetics
- ___ Traditional white variety development
- ___ End-use quality
- ___ Traditional red variety development
- ___ Biotechnology variety development
- ___ Value-added uses, including ethanol
- ___ Wheat genome mapping
- ___ Consumer preferences
- ___ Industrial uses, including feed wheat

Comments? _____

11. Please rank the following **producer outreach investments** from 1-9, with 1 being the most important and 9 the least important.

- Annual report and newsletters
- Variety releases from KSU
- Kansas Ag Statistics
- Harvest Salute to Producers
- Educational meetings
- Trade shows
- Hard White market assistance
- Statewide conferences
- Agency oversight on regulations

Comments? _____

12. Please rank the following **domestic consumer investments** from 1-9, with 1 being the most important and 9 the least important.

- Wheat Foods Council
- Domestic buyers, first purchasers
- Kansas Wheat Spokesperson Program
- Kansas Foundation for Ag in the Classroom
- Urban media, harvest tour
- Home Baking Association
- Festival of Breads
- Promotion, annual recipe book
- Bake and Take Day

Comments? _____

13. Had you heard about efforts to increase the Kansas wheat assessment prior to receiving this survey?

- Yes No

14. At what level per bushel are you willing to contribute to the wheat assessment? (Please mark only one answer.)

- 10 mills (1¢ per bushel)
- 15 mills (1½¢ per bushel)
- 20 mills (2¢ per bushel)
- 25 mills (2½¢ per bushel)
- More than 25 mills. Please specify _____ mills/cents.

15. How willing are you to support an increase in the assessment to two cents (\$0.02) per bushel? (Please mark only one answer.)

- Very willing to support an increase
- Tend to be willing to support an increase
- Tend to be reluctant to support an increase
- Very reluctant to support an increase
- No opinion



16. How would you like the Kansas Wheat Commission to report to you about the use of your assessment investments? Please rank from 1-4, with 1 being the most preferred.

Email (Please provide email address.) _____

Mail

Publications

Public meetings

17. Would you be willing to participate in meetings or online/email discussions of critical issues affecting wheat production?

Yes. Either meeting or online/email Yes. Meeting only Yes. Online/email only No

Contact Name _____ Address _____

City, State, Zip _____ Email _____

If you would prefer not to put your name on the survey but are interested in participating, you may email your name and address to kswheat@kswheat.com or call 1-866-75WHEAT.

18. Please provide any individual comments, suggestions or ideas you'd like to share in this space, or email your additional comments to kswheat@kswheat.com.

These final questions will help us analyze the survey findings.

19. About how many acres of wheat do you grow in a typical year? _____ acres

20. Are you a member of the Kansas Association of Wheat Growers? Yes No

Please send me information about KAWG membership to address above.

21. What is the five-digit zip code to which this survey was mailed? _____

22. Do you consider yourself:

Full-time farm operator

Part-time farm operator

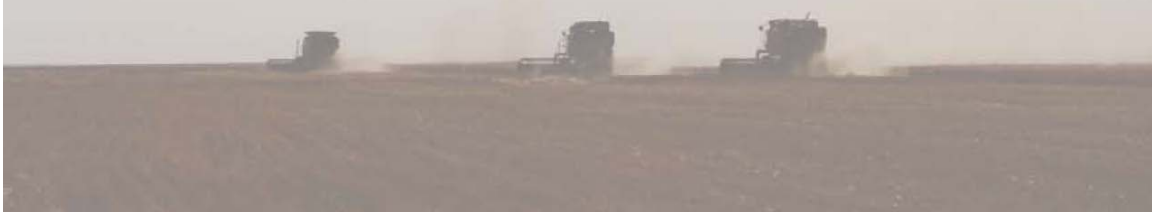
Retired farm operator

Land owner who rents land to a farm operator

Land manager, custodian or supervisor

Other, please specify: _____

Your opinions are important to us — thank you for your time. Please return in the envelope provided.



APPENDIX B

Profitability through Innovation



The Kansas Wheat Commission was created to conduct a campaign of wheat promotion and market development through research, education and information.

Funds provided by the Kansas wheat assessment are used for a number of projects and programs. Current programs can be categorized into international, research, producer outreach, and domestic consumer investments.

The next few pages provide an outline of current projects and programs with fiscal year 2008 funding in parenthesis.

International Investments (\$1,185,374)

U.S. Wheat Associates (\$836,326)

USW is the industry's export market development organization, working in 90 countries on behalf of America's wheat producers. Producer check-off funds are matched 3-to-1 by federal dollars.

Trade Teams in Kansas (\$10,000)

Bringing international buyers to Kansas with U.S. Wheat Associates develops strong relationships and builds the knowledge of these buyers to the milling, baking and grading characteristics of Kansas wheat.

Buyers' conferences (\$15,000)

Buyers' conferences are held around the world. Wheat buyers, mill managers and owners are presented with the current year's crop quality characteristics. U.S. wheat image is enhanced through information provided, and U.S. wheat farmers develop contacts with the grain trade.

International Grains Program at KSU (\$150,000)

IGP is designed to educate foreign business leaders and government officials about U.S. grains and oilseeds through technical training and assistance programs in storage and handling, milling, marketing and processing.

Crop Quality Testing (\$40,000)

An extensive quality testing procedure to collect and test samples from across the state. This information is available to international buyers, producers, and others.

Special events and recognition (\$20,000)

Kansas Wheat will host a top international buyer at a recognition event in Kansas. Inviting top buyers to Kansas improves relationships and draws news attention to that market.

Biotechnology education

Many areas in the world have negative attitudes toward foods produced through biotechnology. USW is working to address concerns by millers and food processors about adventitious presence of genetically-modified material in U.S. wheat.

Insert for informational purposes only. Please keep for your reference.

Research investments (\$793,285)

Basic genetics (\$184,000)

This investment area includes maintaining the Wheat Genetics Resource Center, providing growth chambers at Hays, as well as germplasm and phenotyping investigations.

Traditional white variety development (\$158,600)

New Hard White varieties that will meet the quality demands of our domestic and international customers, while giving our producers top agronomic performance.

End-use quality (\$140,987)

The Kansas Wheat Quality Lab provides breeders, producers, and researchers with timely quality data and assists KS and U.S. wheat marketing efforts. Researchers are also working to predict quality based directly upon specific markers.

Traditional red variety development (\$115,580)

New Hard Red Winter varieties that have excellent yield, adequate protection against stresses and desired end use quality traits. Overley and Fuller are the latest varieties released from this program.

Biotechnology variety development (\$50,325)

Evaluate transgenic lines using gene silencing to control Wheat Streak Mosaic Virus, enhance abilities to make transgenic wheat, transfer traits to elite varieties through breeding, and provide technical resources for KSU wheat research community.

Value-added uses, including ethanol (\$36,823)

Investigating methods to maximize the processes of wheat cellulosic materials, namely, bran and wheat straw, into ethanol.

Wheat genome mapping (\$30,000)

The International Wheat Genome Sequencing Consortium (IWGSC) advocates in the U.S. and internationally to position wheat as the next major species for sequencing.

Consumer preferences

Potential area for research into the benefits of whole grains and healthful components of wheat in the diet.

Industrial uses, including feed wheat

Investigating industrial or feed wheat that would be developed and identifiable for segregation from milling wheat.

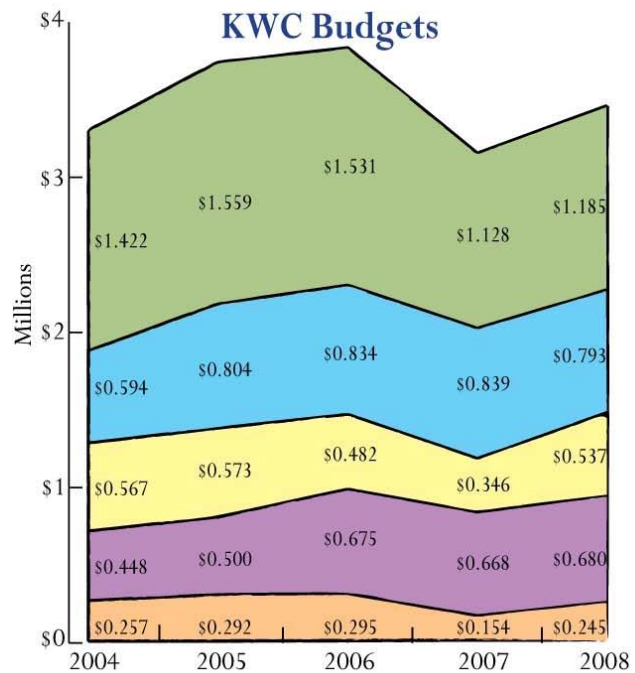
Producer outreach investments (\$346,853)

Annual report and newsletters (\$90,000)

Quarterly newsletters and the required annual report are placed in *Kansas Farmer* and *High Plains Journal* magazines.

Variety releases from KSU (\$39,921)

Participation in commercializing previously-funded research initiatives and producer information to select wheat varieties to maximize yields and minimize variability.



Kansas Ag Statistics (\$25,000)

Fund program to collect data on wheat quality and varieties seeded. Publicize the findings.

Harvest Salute to Producers (\$25,000)

This annual campaign, which honors and thanks Kansas wheat producers and draws attention to Kansas during wheat harvest, is partially financed by corporate sponsors.

Educational meetings (\$11,800)

Host at least one producer meeting per district annually. Travel for key field days, pre-plant wheat schools, and other events.

Trade shows (\$10,000)

Attend farm shows and local Kansas Wheat producer meetings.

Hard White market assistance (\$10,000)

Support Hard White wheat development project to identify opportunities for direct marketing/origin sourcing.

Statewide conferences (\$7,500)

Provide producers with the latest from the research community and industry with conferences including Kansas Wheat Day, the Kansas Wheat Conference, and the Kansas Commodity Classic.

Agency oversight on regulations

Represent producers in auditing the administration of state and federal laws and regulations. Work with the State Department of Commerce on the harvest program.

Domestic consumer investments (\$245,028)

Wheat Foods Council (\$121,325)

The WFC is an industry-wide partnership dedicated to increasing wheat and other grain foods consumption through nutrition information, education, research and promotional programs. WFC is funded by producers and industry.

Domestic buyers, first purchasers (\$17,725)

Provide all first purchasers with a report of past year's activities. Partner with Kansas Grain and Feed Association. Membership in Wheat Quality Council, which evaluates the milling and baking qualities of wheat varieties.

Kansas Wheat Spokesperson Program (\$20,000)

Nearly 20 spokespersons provide valuable information about wheat production, by-products and wheat foods. These volunteers assist Kansas Wheat in meeting its educational and informational goals across the state.

Kansas Foundation for Agriculture in the Classroom (\$20,000)

KFAC produces quality educational resources to for Kansas educators and students about Kansas agriculture and natural resources.

Urban media, harvest tour (\$5,000)

In an attempt to gain news stories in large urban newspapers, Kansas Wheat will invite three to five urban reporters to tour Kansas during wheat harvest.

Home Baking Association (\$1,575)

HBA promotes home baking by providing educators tools and knowledge to perpetuate future generations of home bakers.

Festival of Breads (\$5,000)

The Festival of Breads is a statewide bread-baking contest, held every other year, since 1990.

Promotion, annual recipe book

This annual book features a dozen well-tested recipes in addition to wheat facts.

Bake and Take Day

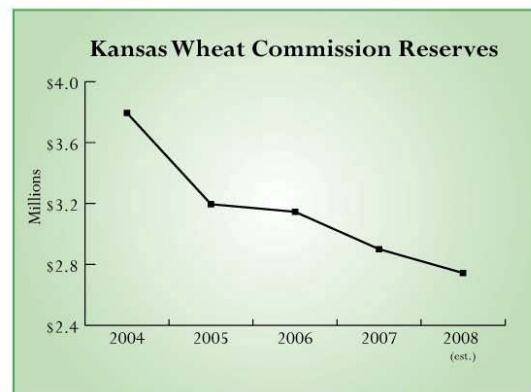
Bake and Take Day is celebrated annually on the fourth Saturday in March by baking a product made from wheat or wheat products and taking it to a neighbor, relative or friend.

Assessment Authority

Over the past five years, wheat acres have trended downward, and so have the monetary reserves of the Kansas Wheat Commission.

The authority to collect the wheat assessment was granted by the Kansas Legislature in 1957. The current level of authority was granted 25 years later in 1982. It has been 25 years since the last legislative increase in the wheat assessment.

Much has changed during that time, and the Kansas Wheat Commission has identified several areas of additional need. These include research and biotechnology, consumer education, and cellulosic ethanol.



Kansas Wheat Strategic Plan

In December 2005, **Kansas Wheat** adopted a joint strategic plan entitled, “Profitability through Innovation.” The plan outlines goals and objectives for the two Kansas wheat organizations.

New Product Development Initiatives

- Search and catalog currently available wheat research and assess commercialization potential given the existing conditions in the wheat supply chain – from input suppliers to consumers.
- Identify and assist with implementation of opportunities within the marketing chain for producers to maximize quality preservation, assurance and traceability systems.
- In collaboration with KSU and other industry partners, design and implement a mechanism that could regenerate funds to enhance producer-funded research.
- Develop relationships with researchers and their institutions that allow intellectual property to be shared with Kansas Wheat so that at least a portion of the commercialization benefits of discoveries will directly flow back to producers.

Membership & Leadership

- Double the number of voluntary producer members of Kansas Association of Wheat Growers.
- Increase the funding from voluntary associate members by 50 percent
- Identify at least 5 potential candidates for election of board seats each year in order to have a contested election.
- Plan at least 2 leadership-training sessions for board members and other producers per year.
- Increase non-leadership producer attendance to state annual convention.
- Gain 10 new members who are indirectly related to agriculture

Consumer Enhancement Initiatives

- Increase the average per capita domestic consumption of wheat and wheat products from 136 to 150 pounds.
- Add five new members to the Wheat Foods Council to facilitate a critical mass for undertaking education and other consumption enhancement campaigns.
- Gain 10 new media placements in urban population circulations per year.

Partnership Development & Nurturing Initiatives

- Identify two new programs that have direct supply chain implications and gain industry partners to contribute matching dollars.
- Partner with at least 5 new associate members in Kansas Wheat events each year.
- Strengthen Wheat Growers Research Foundation’s visibility as a recipient of private contributions.

Marketing & Sales Initiatives

- Increase interaction between suppliers and Kansas Wheat identified target markets to facilitate additional exports.
- Engage the interest and support of at least three national media personalities to do various stories on the success of Kansas Wheat’s efforts in target markets
- Continually inform wheat producers on Kansas Wheat activities and additional items that benefit producers.
- Initiate a free subscription to monthly content-rich electronic newsletter targeting international buyers, consumers and teachers interested in all things wheat.
- Identify at least two scientists with effective communication skills who can be included in the itineraries of foreign guests of Kansas Wheat to help them understand and appreciate why Kansas is the Wheat State.

State & Federal Legislation

- Develop favorable policy to be included in 2007 federal legislation.
- Develop and advocate annual resolutions that are favorable to wheat producers.

Contact Us

For more information about Kansas Wheat Commission programs and activities or about the cooperative agreement between the Kansas Wheat Commission and the Kansas Association of Wheat Growers, joining together as “leaders in the adoption of profitable innovations for wheat,” contact the Kansas Wheat office.



Kansas Wheat
217 Southwind Place
Manhattan, KS 66503
1.866.75WHEAT
kswheat@kswheat.com
www.kansaswheat.org