

# 2007 Crop Insurance Summary Utah

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All agricultural producers face recurring risks, significant among them being production risk. Many factors contribute to production risk, including adverse weather conditions such as drought or floods, fires, insects or pests, and disease. These events can devastate a crop, significantly reducing yield and farmer revenue. Since the only way to completely avoid all production risks is to stop producing, successful farmers will seek for ways to mitigate these risks through various management techniques. One risk management tool available to crop producers is the purchase of crop insurance.

Crop insurance policies may be purchased from USDA's Farm Service Agency (NAP policies) or from a commercial firm. A list of sales representatives and policy information is found on the Utah State University Agribusiness webpage (http://extension.usu.edu). NAP

policies are not available for crops that are insured by a commercial insurance company. This publication provides an evaluation of commercial policies sold in Utah.

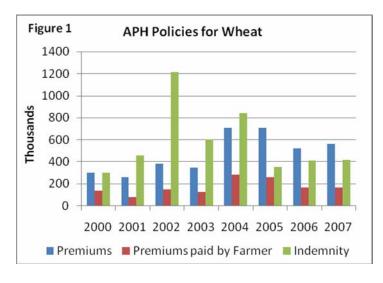
Crop insurance programs allow farmers to mitigate some of their production risk by shifting it to a third party, the crop insurer. In effect, crop insurance removes some of the risk of production loss faced by farmers. In the event of a loss, the producer would receive an indemnity payment from the insurer based upon the type and level of crop insurance coverage. It is important to understand that crop insurance is a risk management tool, not an investment. Indemnity payments are not designed to always "pay," and they are received only when something bad happens. When large losses occur, indemnity payments are made to lower the magnitude of the loss farmers incur.

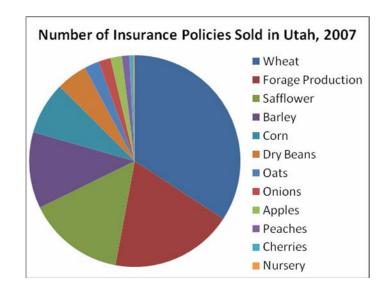
2007 Crop Insurance for Utah									
Commodity	Policies Sold	Insured Acres	Liabilities	Total Premiums	Premiums paid by Farmers	Indemnity	Loss Ratio		
Apples	17	691	\$1,541,372	\$185,975	\$72,060	\$86,380	0.46		
Barley	113	4,738	\$376,795	\$47,884	\$17,111	\$44,218	0.92		
Cherries	6	164	\$183,681	\$20,393	\$8,381	\$11,278	0.55		
Corn	78	9,103	\$2,663,535	\$178,686	\$54,007	\$98,785	0.55		
Dry Beans	46	1,626	\$80,841	\$16,065	\$6,484	\$22,728	1.41		
Forage Production	182	24,416	\$2,724,044	\$177,102	\$30,425	\$148,161	0.84		
Peaches	11	228	\$309,508	\$60,243	\$19,866	\$5,888	0.10		
Nursery	2	0	\$2,514,153	\$25,400	\$0	\$0	0.00		
Oats	22	273	\$21,165	\$1,580	\$556	\$0	0.00		
Onions	18	971	\$1,568,213	\$162,289	\$69,367	\$51,070	0.31		
Safflower	144	12,787	\$411,462	\$50,315	\$15,840	\$60,384	1.20		
Wheat	332	95,558	\$6,756,656	\$1,235,172	\$445,215	\$1,099,785	0.89		
Total	971	150,555	\$19,151,425	\$2,161,104	\$739,312	\$1,628,677	0.75		

Details about past crop policies in a specific area can help producers in that area better understand the level of the risks they face. For example, if indemnity payments were relatively high for a certain crop in the past, this would suggest the risk associated with growing that crop was high. Past information can also help farmers decide if the cost of the premium is worth the lowered risk from buying a crop insurance policy. The following consists of information concerning crop insurance policies for Utah designed to aid producers in risk management decisions.

Table 1 provides information specific to each crop including the number of policies purchased by farmers and the total premiums paid in 2007. The federal government has numerous subsidy programs to help agricultural producers, including for the purchase of crop insurance. The amount a policy is

Table 2. Changes in Wheat Policies by Type							
Type and Coverage	Policies Sold	% change from 2006	Acres Insured	% change from 2006			
APH 50%							
CAT	94	0.09	36,159	0.27			
APH 50%	32	-0.14	7,783	0.12			
APH 60%	3	-0.40	392	-0.84			
APH 65%	91	-0.19	21,921	-0.07			
APH 70%	11	-0.15	1,579	-0.65			
APH 75%	8	0.14	2,085	0.04			
CRC 50%	2	-0.50	2,528	0.29			
CRC 55%	1		60				
CRC 60%	4	0.00	2,750	-0.06			
CRC 65%	44	-0.06	8,332	-0.28			
CRC 70%	32	0.03	6,465	0.20			
CRC 75%	10	0.11	5,504	2.41			
Total	332	-0.07	95,558	0.04			





subsidized depends on the type and level of coverage. Of particular interest is the loss ratio. It represents the value of the loss, or the indemnity payment value, compared to the total premium value. Ratios above 1.0 indicate that the value of indemnity payments made to farmers exceeded the total value of premiums paid for crop insurance. As outlined in Table 1, the loss ratios for dry beans and safflower were greater than 1.0 in 2007, but lower for all other commodities. Another important relationship is that between indemnity payments and the portion of premiums paid by farmers. A comparison of these two factors shows that while the loss ratio was only above 1.0 for two commodities, indemnity payments were higher than premiums paid by farmers for all commodities except peaches, oats, and onions in The discussion below considers these and other factors relating to risk management for specific commodities grown in Utah.

### Wheat

Wheat is the most widely insured crop in Utah, accounting for over 57% of the total premiums and over 67% of the total indemnity payments made in 2007. 95,558 wheat acres were insured last year, representing 65% of total wheat acreage in Utah. Both the insured acres and the percent of insured acres relative to total wheat acres increased last year when compared to 2006 despite a decline in the total number of policies sold.

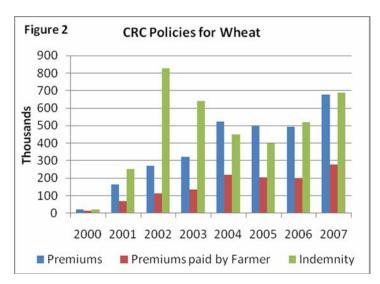
Both Actual Production History (APH) and Crop Revenue Coverage (CRC) polices were purchased in 2007, but the majority were APH policies (72%). Table 2 shows the number of policies purchased and the acres insured under each policy type and coverage level, along with the percent change relative to 2006. As the table outlines, the decline in total policies sold stems mainly from declines in the purchase of lower coverage level policies, with the exception of the catastrophic APH policy. Increases in higher coverage level policies, specifically 70% and 75% CRC policies, contribute to the increase in total acres insured and suggest that the lowering of risks is becoming increasingly important to Utah producers.

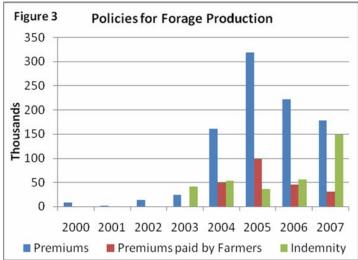
With a general increase in coverage level, it is not surprising that liabilities have increased as well as premiums and indemnity payments for both policy types. Figures 1 and 2 show the total premiums, premiums paid by farmers and indemnity payments for APH and CRC wheat policies, respectively, since 2000. As expected, each variable increased in 2007 relative to 2006, comparable to the higher general coverage level. Perhaps more important to note is that total indemnity payments have consistently exceeded total premiums paid by farmers since 2000 for both APH and CRC policies and loss ratios have been relatively high for wheat over the past eight years. These two facts suggest that there are fairly high risks associated with the production of wheat in Utah and that those risks can be effectively mitigated with the purchase of a crop insurance policy.

# **Forage Production**

Forage production insurance policies accounted for nearly 20% of total crop insurance policies sold, but only about 8% of total premiums and 9% of total indemnity payments in Utah in 2007. While total forage production acreage in Utah increased nearly 60% in 2007, only 24,416 acres were insured last year representing a mere 3% of total forage production acreage, a 2% decline from 2006. Despite forage production policies accounting for a fifth of total policies, the number of policies sold last year decreased by 25% respective to 2006.

All 182 policies purchased in 2007 were APH policies and nearly 80% of those were at the 50%





coverage level. Few policies were purchased at each of the higher coverage levels; only the 65% coverage level had more than three policies purchased. With the decrease in policies and insured acreage, liabilities and premiums also decreased in 2007. Total indemnity payments, however, almost tripled relative to 2006. Figure 3 shows that indemnity payments have increased the past three years and, despite declining policy numbers, indemnity payments were nearly five times the amount farmers paid toward premiums in 2007. Similarly, the loss ratio increased significantly in 2007 when compared to the previous year. A continuation of this trend would suggest increased risks associated with forage production and that crop insurance can reduce some of these risks.

# Safflower

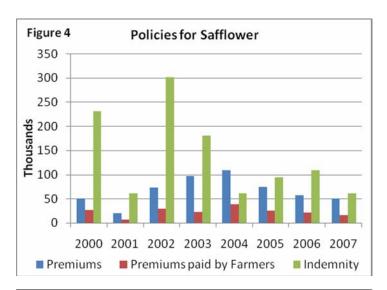
Safflower insurance policies made up 15% of total crop policies sold, 2% of total premiums paid, and 4% of total indemnity payments in Utah during 2007. The number of safflower policies declined slightly from 2006 and acres insured fell a mere 0.4%.

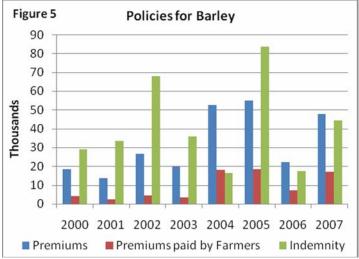
Of the safflower insurance policies purchased last year, the highest number of policies was at the 65% coverage level. Unlike wheat, the decrease in total policies sold comes from a decline at the higher coverage levels, 70% and 75%. The decrease in insured acres at the 75% level accounts for 92% of the total decrease in insured acreage. As expected, liabilities and premiums also decreased in 2007, as well as indemnity payments as outlined in Figure 4. Part of the lower indemnity payment level in 2007 can be explained by the lower coverage levels of policies purchased last year. Indeed, those years with higher average coverage levels correspond to higher overall indemnity payments. This historical behavior of indemnity payments compared to coverage level suggests that total crop devastation is relatively rare, but the risk for some yield loss is high.

# **Barley**

12% of crop insurance policies sold in 2007 were for barley, accounting for 2% of total premiums and 3% of total indemnities last year. The number of barely policies purchased declined 8% from the previous year. Total barley acreage also declined in 2007, but, despite the decline in policy numbers, the number of insured acres increased nearly 30%, increasing the percent of total barley acres that were insured to 12%.

Half of the policies purchased for barley were at either the 65% coverage level or the 50% CAT level. Despite a decrease in policy numbers at all coverage levels (with the exception of the 70% coverage level which remained unchanged), acres insured increased for all but the 55% level. This suggests that although fewer farmers are purchasing insurance policies (this may be a result of possibly fewer barley farmers due to the lower total barley acreage), those farmers who do purchase crop insurance policies are insuring more acres. The relatively high indemnity payment levels depicted in Figure 5 and the increase in insured acres





may indicate that the risk associated with barley production is relatively high.

### Corn

Corn policies accounted for 8% of total policies sold, 8% of total premiums, and 6% of total indemnity payments in 2007. 9,103 corn acres were insured in 2007, equivalent to 13% of total corn acreage. The total number of acres planted in corn, the number of acres insured, and the percent of total acres insured all increased last year respective to 2006 while total policy numbers declined 7%.

Both APH and CRC policies have been purchased for corn in the past, but only one CRC policy was purchased in 2007 and the remaining 77 were APH policies. About 68% of these policies purchased were at the 50% coverage level. Policy numbers

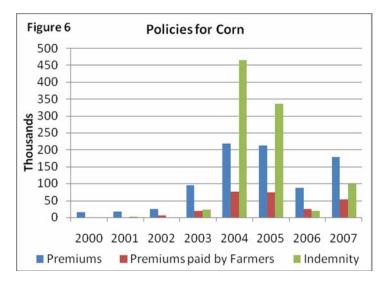
decreased or remained unchanged at all coverage levels but one (policies sold at the 65% coverage level increased), insured acres did not decline at any coverage level and actually increased at five of the six coverage levels with policies sold. This suggest, as with barley, that fewer corn producers are purchasing insurance policies, but those who are purchasing policies are insuring more acres.

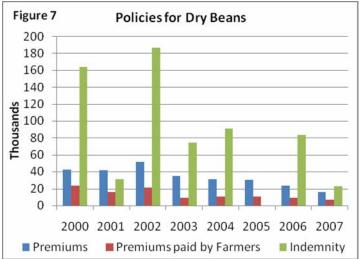
The increase in insured acres and the slight increase in policies sold at the 65% coverage level both contributed to higher premiums in 2007, as shown in Figure 6. Indemnity payments also increased more than four times in 2007 compared to the previous year. Indemnity payments have, however, been fairly volatile over the past eight years, swinging from a low of \$916 in 2002 to a high of \$463,976 in 2004. While policy numbers and insured acres were higher in 2004, these factors only explain a small portion of the large increase in indemnity payments since the average indemnity per policy and per acre also increased significantly over these two years. This volatility suggests the risks associated with the production of corn in Utah are relatively high.

# **Dry Beans**

About 5% of crop insurance policies sold in 2007 were for dry beans, accounting for 0.7% of total premiums and 1.4% of total indemnities last year. The number of dry beans policies purchased declined 8% from the previous year and both total dry beans acreage and insured acreage declined by over 1,000 acres. The percent of total acres insured dropped from 71% in 2006 to 54% in 2007.

Most dry beans policies purchased in 2007 were APH policies at the 65% coverage level, with a few policies at the 50% CAT and 70% coverage levels. Policy numbers and insured acres decreased at all coverage levels relative to 2006, along with total premiums, liabilities and indemnity payments. Despite these declines, indemnity payments have, with the exception of 2005 when no indemnity payments were made, consistently exceeded the amount farmers have paid for insurance premiums. Figure 7 depicts this relationship. While dry beans farming has declined over the past eight years in Utah, loss ratios have remained high (above one) for





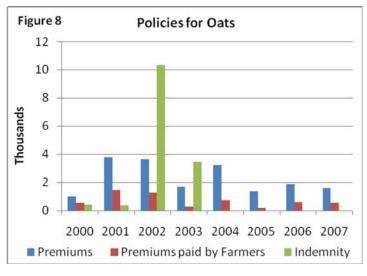
seven of those eight years, suggesting continued high levels of risk associated with dry beans production and that insurance policies have helped reduce this risk.

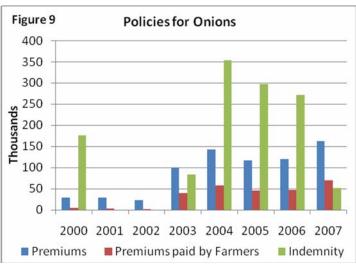
### Oats

Only about 2% of crop insurance policies sold in 2007 were for oats, accounting for a mere 0.07% of total premiums and receiving no indemnity payments. The number of oat policies purchased declined 21% from 2006. While total oat acreage declined 30% last year, insured acreage declined nearly 40%, lowering the percent of total acres insured in 2007 to below 1%.

Almost 90% of oat policies purchased in 2007 were APH policies at the 50% or 65% coverage levels. The decline in policy numbers stemmed from a

decline at all coverage levels, but especially at the 50% level. Liabilities and premiums also decreased in 2007, synonymous with the decline in policy numbers and insured acreage. No indemnity payments were made in 2007, and indemnity payments have been quite low for most of the past eight years as depicted in Figure 8. Indeed, the loss ratios have been quite low, below 1, for six of the eight years, and have remained at 0 for the past four years. Interestingly enough, general coverage levels were higher in the two years with relatively high indemnity payments, 2002 and 2003. This suggests there is little risk of losing 35%-50% of an oats crop, but significantly higher risk of losing 25%-30%. Thus, if crop policies are to be purchased, higher coverage levels should be considered to better mitigate risks associated with the production of oats.





### Onions

Onion insurance policies accounted for only 1.9% of total crop policies in 2007, but 7.5% of total premiums and 3.1% of total indemnities. The number of total policies purchased remained unchanged from 2006 while total insured acreage declined slightly.

Decreases in policy numbers at the 50% and 65% levels were offset by equal increases at the 70% and 75% levels, resulting in a higher overall coverage level. In fact, 17 of the 18 policies purchased in 2007 were at the 70% or 75% coverage level compared to 12 of 18 the previous year. Because of this higher coverage level, liabilities and premiums increased despite the small decrease in insured acres. Interestingly, though, indemnity payments in 2007 were significantly lower than the previous three years, as depicted in Figure 9. Similarly, indemnity payments were relatively large in 2000 when the coverage level was the lowest in the past eight years and the loss ratio for that year was 6.2—2.5 times the next largest loss ratio in 2005. This suggests that relative changes in indemnity payments are not correlated to coverage level as much as changes from year to year in other production risk factors. This general volatility indicates relatively high risks associated with the production of onions in Utah.

# **Apples**

Apple policies made up 1.7% of total crop policies sold, 8.6% of total premiums paid, and 5.3% of total indemnity payments in Utah during 2007. The number of apple policies declined 17.6% from 2006. Total apple acreage declined 31% last year, but insured acreage declined only 7%, increasing the percent of total acres insured to 50% in 2007.

Of the 17 apple insurance policies purchased last year, the highest number of policies was at the 50% coverage level. Unlike onions, the major decline in policy numbers was seen at the higher coverage levels; policy numbers at the 50% coverage level actually increased last year. As expected, liabilities and premiums also decreased in 2007, as well as indemnity payments as outlined in Figure 10. Loss ratios have varied from a low of 0.3 in 2003 to a high

of 3.7 in 2002. Figure 10 also shows that total indemnity payments have exceed the total premiums paid by famers seven out of the past eight years. These factors suggest that risk is a constant issue in apple production and that crop insurance is a useful tool for mitigating those risks.

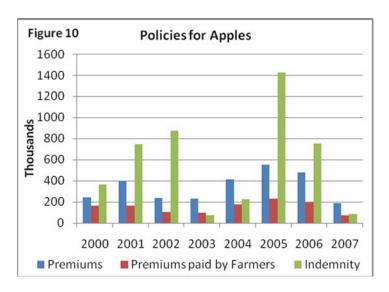
### **Peaches**

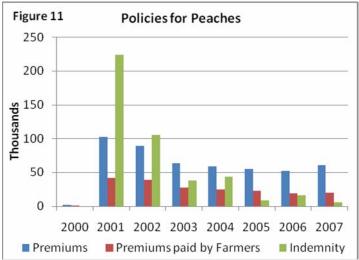
The number of policies purchased for peaches accounted for 1.1% of total policies purchased in Utah during 2007. Peach policies made up 2.8% of total premiums paid and 0.4% of total indemnity payments. The number of peach policies remained unchanged from 2006 and the number of insured acres increased, despite a decrease in total peach acreage. This caused the percentage of total acres insured to increase from 16% in 2006 to 18% in 2007.

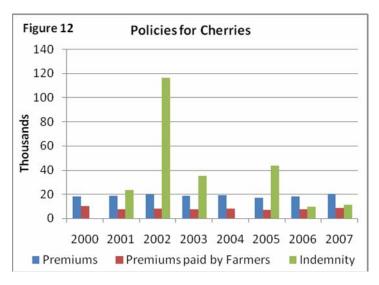
Of 11 insurance policies purchased for peaches last year, five were at the 50% coverage level and the remaining six were at 65% or higher coverage levels. No policy coverage level changes were made between 2006 and 2007, but the majority of the insured acreage increase was at the 50% CAT coverage level. This increase in insured acres caused total liabilities and premiums to increase last year, but indemnity payments decreased over 60%. Figure 11 outlines the relative movement of premiums and indemnity payments over the past eight years and indicated that indemnity payments have only exceeded the amount farmers paid in premiums 50% of the time. Similarly, the loss ratio has been below 1.0 for the past five years and was a very low (0.1) in 2007. However, high indemnity payments and loss ratios in 2001 and 2002 suggests that there is significant risk associated with the production of peaches, even though the past few years suggest the risk is not as high as other crops.

### Cherries

Cherries production is a relatively small part of Utah agriculture, accounting for only 0.6% of total policies purchased, 0.9% of total premiums, and 0.7% of total indemnities in 2007. Total policies decreased in 2007 and both total cherries acres and insured acres decreased last year relative to 2006, but the percent of total acres insured remained constant at 28%.







All 6 policies purchased during 2007 were above the 50% coverage level, half of them being at the 70% coverage level. Most of the decline in insured acreage resulted from a drop in policy numbers and

insured acres at the 65% level. Insured acres actually increased at the 70% level, but not enough to offset the 65% level decrease. Because more acres were insured at higher coverage levels in 2007, total liabilities and premiums also increased, as well as indemnity payments. As shown in Figure 12, while premiums have varied little historically, indemnity payments for cherries have varied significantly relative to premiums over the past eight years. Loss ratios have also experienced wide swings with lows of 0 in 2000 and 2004 and a high of 5.92 in 2002. Such volatility suggests that losses are highly unpredictable, heightening the level of risk associated with producing cherries.

# Nursery

Insurance policies for nursery have been purchased since 2003 and account for 0.2% of total policies sold in Utah and 1.2% of total premiums paid during 2007. Policy numbers remained unchanged from 2006, but liabilities increased over 900% in 2007. Premiums also increased significantly last year, but nursery policies have been 100% subsidized each year so producers have paid nothing for the policies. No indemnity payments were made last year or have been made any years, suggesting relatively low risk associated with nursery production. However, since the premium cost to farmers has been nothing, risk can be mitigated at a very low cost to the producer.

The information provided in this publication is general information specific to Utah. It is intended to provide Utah crop producers with general indicators concerning risk and the use of crop insurance to mitigate risk in the area. To better evaluate individual levels of risk and need for crop insurance, each producer should also consider personal experience with crop loss, ability to bear risk, and risk aversion.

All Utah crop insurance information presented in this publication is taken or developed from Risk Management Agency crop insurance data available through their website: www.rma.usda.gov.

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