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## The Effect of Failed Acres on the ACRE Program<sup>1</sup>

*Dear Art,*

*Are you saying that the farmers just didn't report acreage to FSA if the wheat failed? That really is a detriment to either program, because I would assume that would not help their acreage base in a future farm program, or even if they elect ACRE in the next two years.*

*The education curve is a long, steep one!!*

*Iowa Ag Lender*

Dear Iowa Ag Lender,

In 2007, Kansas planted 10.4 million acres of wheat. However, in 2007 only 8.6 million acres were harvested because of a wheat crop failure due to freeze and excess moisture loss. That means 1.8 million acres were not harvested. This was the second largest amount of unharvested acres over the past 14 years. Only the drought year of 1996 had a larger number of unharvested acres. The 2007 wheat crop insurance loss ratio was the third largest in the 30 year history of the current crop insurance program. However, Farm Service Agency (FSA) only had 113 thousand acres reported as failed acres by

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farmers (about 6% of the unharvested acres). FSA will divide the total production by harvested acres plus failed acres (113 thousand) and that will make the yield higher and reduce ACRE payments.

Normally one would expect about 40%-50% of the unharvested acres in a disaster year would be classified as FSA failed acres. The problem is two different data sources. National Agricultural Statistic Service (NASS) is measuring the harvested acres that were actually harvested but FSA is only counting the failed acres reported to their office by farmers.

Under the FSA program, farmers certify their acres for harvest (eliminates the grazed out acres) but later if the crop fails they often don't return to FSA to change the status from "harvested" to failed acres. As a result it is very likely that FSA's harvested acres do not match with the NASS harvested acres that are used to calculate ACRE payments. The NASS harvested acres are the "real" acres harvested. As a result the acres planted for harvest but fail must be reported to FSA or the total acres for ACRE is understated and that will increase the state average yield and lower the ACRE payment.

So this does take us back to the original issue. If farmers don't report failed acres to FSA then the unreported failed acres will reduce the ACRE payment. If only a few farmers sign up for ACRE then there is no economic incentive to report failed acres. So the key policy question is what procedure will FSA use to make sure all of the failed acres are counted?

ART

*Hi Art,*

*Excellent point about farmers reporting failed acres. If they don't, the ACRE program won't work.*

*I have been pondering another issue. With ACRE, the farmer trigger gets to add in his cost of crop insurance. I will pay over \$60/acre for my GRIP this year. Let's say that my 5 year Olympic ave is 175 bu and the 2 year price of corn is \$4.00.*

*$175 \times 4 = \$700 + \$60$  (insurance premium) = \$760 farm trigger.*

*If prices drop to \$3.00 for the next crop year, any farm yield below 253 bu would trigger a loss, versus a 233 bu trigger for a similar farmer (same yields) that did not have insurance. It just seems like the more I spend on insurance, the greater the odds of triggering at the farm level. Of course, if the state doesn't trigger, buying more insurance didn't make any difference.*

*Am I looking at this correctly?*

*Iowa Farmer*

Dear Iowa Farmer,

That is correct; adding the insurance premiums will make it easier to meet the farm level trigger. But you are also correct, ACRE has two triggers and the first trigger that must be met is the state level revenue trigger. Just meeting the state level trigger may generate only a small payment. Hitting the maximum 25% of the state revenue guarantee cap will require the state revenue loss to be greater than just hitting the trigger. Once the state triggers, then farmers will need to meet the farm level trigger.

More important is your farm level proven yields so that you are not required to accept the lower county yield. The higher your farm proven yield, the easier it will be to meet the farm level trigger. In addition those farmers with higher proven yields will receive a larger share of any state triggered ACRE payment.

I would suggest you prove your yields before August 14 so that you will know the conditions of your ACRE guarantee. Currently FSA is not accepting records, but my understanding is that will change in the next couple of days unless it has already happened. If you are forced to use a low county yield, that will make it difficult to meet the farm level trigger and will reduce any ACRE payment if you do qualify.

ART

*Thanks Art,*

*I agree with you that a higher proven yield gets a larger share of any state triggered ACRE payment. I'm not sure that I always agree that a farm with a higher trigger level will always trigger sooner than a farm with a lower trigger. My point is that some farms that have good yields almost always have good yields due to their quality soils, where as poor farms can drop below their averages easier when adversity hits. I don't have anything to back that up, it is just a hunch, or more of a question than anything.*

*Here is a point to ponder, let's assume that most farms in northern Iowa have a complete 100% base, made up of corn and soybeans. Many farms are 50% corn base and 50% soybean base. Corn direct payments pay more than soybean base direct payments. Let's assume a corn base acre pays \$36 in direct payments per acre and a soybean base acre pays \$15/acre. So, it may be better to enroll farms with lower corn bases (and higher soybean bases) into ACRE, as you would be giving up less direct payments. To take it to the extreme, if a farm had a 100% corn base, they would be giving up \$7.20 per acre (20%). If a farm had a 50-50 corn and soybean base, it would be giving up \$5.10 per acre, and if a farm had a 100% soybean base, it would give up \$3.00 per acre.*

*I heard that the state triggers about 25% of the time (again, this is Iowa I am talking about). Do you know if they have any figures to show what kind of % loss the state triggered loss was? And what period of time that encompassed?*

*My other thoughts on ACRE are that even though it is a revenue program, revenue is yield x price. The correlation of my yields to the state yields are not very consistent (I am in NC Iowa). However, my “price” and the state’s “price” are exactly the same number. So I have perfect correlation on price. So, ACRE gives me more consistent protection for a price decline.*

*My personal inclination is that every farmer should enroll (just as well wait till closer to Aug 14 to get a good long look) some land in ACRE so that they get familiar with how this tool works.*

*Regarding proving yields. I assumed that GRIP farmers could prove up their yields with settlement sheets. If that isn’t good enough, I don’t know what would be. If that isn’t good enough, then using APH records from crop insurance seems much looser. I was thinking you could just tell FSA what your yields are, and then if you get audited you have to prove it (you need to know that you can prove it, before you say it).*

*Thanks Art!*

*Iowa Farmer*

Dear Iowa Farmer,

You missed my point on the farm level trigger. If farmers don’t prove yields, then farmers with above county average yields would lower their odds of meeting the farm level trigger. For example, let’s assume the county average yield is 100 bushels but the farmer can prove 120 bushels (see example below). By using the county yield this farmer’s farm level trigger is \$400, but if this farmer were to prove yields, then the farm level trigger is \$480. If the market price falls to \$3.70 and this farmer produces his average yield of 120 bushels for farm revenue of \$444, then by using the county yield with a \$400 trigger point, he would not meet the farm level trigger. However, if he had proven his yield then the trigger point is higher at \$480 and he would have met the farm level trigger (for simplicity I did not add in the crop insurance premiums but the principle holds). So it is very important for farmers with above average yields to prove those yields.

Farm level trigger using county yield versus proven yields.

ACRE Price	\$4.00	
County yield	100	
Farmer Proven yield		120
Farm level trigger	\$400	\$480
Current Yield	120	
NASS Price	\$3.70	
Revenue to Count	\$444	

Because you are a GRIP buyer, that opens the question will your records be accepted by FSA? At this point we don't know for sure if FSA will accept crop insurance records but if they do, what will USDA policy do with GRIP buyers? Often the crop insurance units don't match up with the FSA farm serial numbers, so there is clearly some paper work that will need to be completed. I am sure settlement sheets will work for proving yields. But for those farmers who fed their corn and are GRIP buyers may have some problems proving yields. Again it is my understanding that FSA either has or will soon have the procedure for proving yields. Therefore, it is a good plan for farmers to meet with their county office people and prove yields before the August 14 sign up. Rather than guessing, farmers will know what records are acceptable and their coverage under ACRE. Even if farmers don't elect ACRE this year, they will have the advantage of only needing to update those records for next years' ACRE sign up. Those farmers who do elect ACRE this year will need to update their yields each year because it is a rolling 5 year Olympic average farm yield.

We agree that if farmers are signing up only some of their farm serial numbers then they should select the farms with the smallest direct payments. In addition they should plant crops that are most likely to generate payments on the farms enrolled in ACRE and plant the crops least likely to collect on the acres that are not enrolled. For farmers with cotton acreage this may be the only option, assuming the objective is maximum revenue. This will be an important issue in parts of Oklahoma and Texas where KSU is estimating a maximum ACRE payment on winter wheat but if there are cotton acres on the farm serial number then it will complicate the decision.

I show only about a 21% frequency of claim rather than 25% but my numbers are a year old and need updating. A 25% estimate is close enough for an economist, so I would not argue with your number. The more important point is that some of those payments were very small but still count as a payment. There would have been only 2 major payments on Iowa corn over the past 28 year period; 1986 and 1993, when nearly 18% of the dollars guaranteed would have been paid. At the other extreme, less than 1% of the coverage would have been paid in the 1988 drought year, due to a price increase. However, this very small 1988 payment would be included in the frequency of claim calculation.

I am not sure I understand your point about price correlation. All farmers have a strong correlation on price. A hedge using futures assumes a strong price correlation. If that correlation weakens just a little, then farmers have a very wide basis. ACRE is state revenue loss, not price. So the real question is your revenue correlated with the state revenue. Effectively, ACRE is a "put option" on state revenue with a very large "basis" risk.

The first ACRE trigger is the state level revenue loss. If the state does not trigger then it does not matter what happens at the farm level. The farm level loss cannot trigger a payment. It can only prevent a payment. So for managing risk, the key is the correlation of the farm revenue with the state revenue. The worst possible outcome would be a -1.0

correlation, so that every time the state has low revenue, the farm doesn't and therefore cannot collect.

This is the ACRE basis risk and the reason I am have trouble buying the risk management argument. However, is this academic argument really important to farmers? There are farmers who are willing to accept the ACRE basis risk, if they believe the returns will be higher.

If ACRE is going to work it will be on Oklahoma winter wheat. I just returned from the Oklahoma wheat harvest near Enid with an interesting perspective. The local professionals (USDA, FSA, crop insurance agents, extension) are saying there has been little interest in ACRE. This is in a county that expects farmers will meet the farm level trigger and the state will generate the maximum ACRE payment (hit 25% cap on coverage). Effectively the ACRE basis risk for this year in North Central Oklahoma is (near?) zero!

The professionals say when they explain the ACRE program to farmers their "eyes glaze over" and they are just not interested. This is the one crop and state that most analysts see almost no chance that ACRE will not pay the maximum payment. There are only two conditions that would lower the ACRE payment below the maximum. One would require a major increase in wheat prices (above \$7). Based on past marketing years, 40% of the national average wheat price will be determined by August. If farmers were really worried about this risk then they could lock in the ACRE payment by purchasing call options (KSU is not suggesting farmers buy calls to protect wheat ACRE payments). The other possibility would be under reporting of failed wheat acres in Oklahoma. However, if this were to happen one would expect there will be Congressional pressure on FSA to verify the failed acres, so this does not appear to be a major risk.

If the market price should drop below the price trigger for counter cyclical payments (\$3.65 for wheat), then there are no counter cyclical payments for farmers electing ACRE. Also the loan rate is reduced by 30% from \$2.75 to \$1.925 for wheat. Therefore, if farmers are very bearish on the market they might not opt for the large ACRE payment. Without a change in biofuel policy, it is difficult to forecast prices that low, but it has happened. However, in the past when market prices were that low, the Government often came out with a new program. Remember the Conservation Reserve Program?

This county is nearly all winter wheat so other crops don't affect the results either, and farmers had significant freeze damage. So why are farmers not showing a greater interest in this County? One would think farmers would be beating a path to the FSA door, and it may still happen. Dr. Rodney Jones, Oklahoma State University Extension (was former KSU professor) has scheduled ACRE meeting(s) with FSA in this region. Because the wheat ACRE payment is expected to be the maximum, I would strongly suggest farmers in that region to attend those meetings. All economic indications are that most of the wheat farmers in North Central Oklahoma would benefit with ACRE. It is unlikely that farmers will receive more than one year of ACRE payments during the remaining 4 years of the Farm Bill. However, it is expected a single Oklahoma wheat ACRE payment in

2009 will exceed the total reduction in direct payments over the next 4 years. So they will have reduced direct payments over the next 4 years but they have already received a payment that exceeds the total reduction in direct payments. If they should happen to have another year with an ACRE payment, then ACRE payments will far exceed direct payments.

I should point out there are spots in Oklahoma with wheat yields over 50 bushels, and those farmers cannot meet the farm level test, so they will not collect ACRE, even though the State is expected to trigger payments.

My suggestion to the county director, rather than explain ACRE, just ask Oklahoma wheat farmers if they want a big check or little check? He says he is not allowed to say that because this is all a forecast until next summer, but it was okay for me to say it. As of today the only place I am forecasting an ACRE payment is on Texas and Oklahoma winter wheat. I have not evaluated North Carolina and Arkansas wheat, but Dr. Zulauf, Ohio State University, is forecasting wheat ACRE payments in those two additional states. There may be other states and crops too but the current numbers do not show any expected payments in other states.

ART

*Thanks Art.*

*Now I get your point about proving yield vs. taking plug. I agree.*

*Do you know where I can find the data you were referring to about frequency of state trigger? I would really like to see 20-25 year history of the state yields, prices, and make my own observations about when it paid out, and what percent. Of course, I would like to see these figures for Iowa corn and soybeans.*

*My point on price correlation was as follows: Revenue (the trigger used for state and farm) is basically yield x price are the two major components of the revenue calculation (plus the 10% deductible at state level, plus add in insurance premium at farm level). Of those two major components lets look at yield first. I am concerned that my farm yield and the state's yield, may or may not have any correlation, which is why ACRE is not a replacement for insurance. However, the price component is exactly the same price used at the state level and farm level. So, if prices really drop, they drop for everyone, good farms and bad. So, a price drop, triggers more and larger payments (in general). Just like last year in the revenue crop insurance business paying out record claim. Therefore, because there is a 100% correlation in price, and an iffy correlation between state and farm yield, odds are ACRE is a much better program if prices drop, and if there are some hit and miss yield problems. And, with our interesting state of economic affairs, I still think price drop is the biggest risk farmers should be looking at protecting.*

*Thanks much. I appreciate your taking time to go over this with me. Sometimes it takes me a few times before I understand your points, so thanks for bearing with me.*

*Iowa Farmer*

Dear Iowa Farmer,

Currently, the Marketing Year Average (MYA) wheat price that will end next May 31, 2010, is expected to decline. Assuming the forecasted price decline does happen, ACRE is still unlikely to pay in Kansas because Kansas' yields are high enough that Kansas wheat will likely not trigger. There will be some Kansas wheat farmers that will meet the farm level trigger, but it will not matter because the state is expected not to trigger. However, farmers with individual yield losses may be eligible for SURE payments, but that will depend on how the SURE procedure rules are written.

In Oklahoma, current analysis suggest the expected state payment will hit the maximum of 25% of coverage. But even in Oklahoma there will be farmers who cannot collect ACRE because there were a few spots in Oklahoma where wheat farmers had above average yields so they will not meet the farm level trigger. Those farmers are correlated on price but less correlated on yield. If one were to split the revenue apart, there would be near perfect 1.0 correlation on price, but the yield correlation is probably more like 0.5. So the revenue correlation is less than 1.0.

The closer the yield is measured to the farm level yield, the higher the correlation for revenue. The county yield in GRIP will have a higher correlation with farm level yields (in most cases) than the state yield in ACRE. The price correlation in both ACRE and GRIP will be near 1.0.

Iowa would have been better off if ACRE had used national yield and no farm level trigger; the original proposal. Because the national yield variation is less, the resulting ACRE would have provided more price protection. Think about it in the extreme. If the national yield had zero variation, then ACRE would be completely price risk protection, and price correlation with farms would be near 1.0. Also the original proposal would have settled on the crop insurance harvest price rather than NASS price. With the release of the national yield shortly after harvest and settling on the crop insurance harvest price would allow farmers to be paid this year, rather than a year (or more for winter wheat) after harvest. ACRE would have provided better risk protection for Oklahoma wheat farmers if the payment had been made this year when farmers have revenue losses caused by yield losses. Remember, their bank loans are due this year. FYI, Kansas wheat would have been better off with the original proposal, once the national yield measure was changed to Olympic average. But this is all academic; farmers have to make a choice based on the offer that is on the table.

The real factor that reduced farmer interest in ACRE was the decline in the market prices last fall. At the time of the ACRE debate, analysts were forecasting a much higher market price for MYA 2008/09 corn that would have made the strike price in ACRE substantially higher. Many farmers will recall the "experts" were claiming that ACRE

would be a billion dollar give away to farmers! How different the market looks today. It also tells me today's forecasts are wrong too, but I just don't know in which direction.

I have the history of ACRE data located on AgManager.info. The menu of crops and states with historical ACRE payments is located about half way down on the page with a 7/14/08 date at:

[http://www.agmanager.info/crops/insurance/risk\\_mgt/default.asp](http://www.agmanager.info/crops/insurance/risk_mgt/default.asp)

Because the market has changed, look at the percentage of coverage paid. For example if the historical payment is 20% and the current coverage is \$400, then the expected payment is \$80 in today's dollars. If prices have doubled and the standard error of the mean has doubled, then the coefficient of variation has not changed. Therefore, measuring the historical payments as a percentage of coverage is a better estimate than the actual dollars paid. The historical payment in dollars would be approximately doubled in today's market.

The frequency of claim is simply count the number of years with payments and divide by the total number of years in the sample.

ART