The Farm Service Agency (FSA) computes county yields used to calculate the Agricultural Risk Coverage County Option (ARC-CO) payments. FSA yields differ from county yields released by the National Agricultural Statistical Service (NASS). The 2014 Farm Bill required USDA to use yields based on “planted acres” rather than the typically NASS-reported yields based on “harvested acres”.

• The NASS county yield is the NASS county production divided by the NASS county harvested acres.
• The FSA county yield is the NASS county production divided by (NASS county harvested acres plus the RMA county failed acres).

If RMA failed acres equal zero, FSA yield equals NASS yield. But, as RMA failed acres increase, FSA yield will decrease relative to the NASS yield. Because of these relationships, FSA and NASS yield comparisons given below depict the level of failed acres. Counties with few failed acres will have FSA yields very close to NASS yields. FSA yields will be below NASS yields as failed acres increase.

Gary Schnitkey at the University of Illinois recently published a paper that compares FSA and NASS yields for Illinois over six years. The map shows the average difference between FSA and NASS yields. A -6.0 value means that FSA yields average six bushels per acre less than NASS yields from 2009 to 2014. Values are reported for all counties where four years of differences can be calculated.

Average differences over the 2009-2014 time frame between FSA and NASS yields are relatively small in most cases. Throughout much of northern and central Illinois, yield differences average less than a bushel per acre. These counties tend to have few RMA failed acres. However, there are some counties with larger average differences. In these counties, failed acres have been larger.

Yearly differences can vary from the averages for counties where FSA yields are lower than NASS yields. To illustrate, take Wayne County, Illinois with a -6.0 average difference. Differences by year in Wayne County are:
- 2009: FSA yield = 9 bu/acre less than NASS yield;
- 2010: FSA yield = 1 bu/acre less than NASS yield;
- 2011: FSA yield = 9 bu/acre less than NASS yield;
- 2013: FSA yield = 11 bu/acre less than NASS; and
- 2014: FSA yield is the same as the NASS yield.
Differences range from zero to eleven bushels per acre. Because the difference is not stable, arriving at accurate estimates of ARC-CO payments is problematic in counties where failed acres have a history of occurring. In many years, an eleven-bushel swing in yield can have a dramatic impact on ARC-CO payments. Some intuition of how many failed acres existed will aid in estimating the difference between FSA and NASS yields.

Similar FSA-NASS yield differences have been seen in Iowa. The following tables show yield differences for Iowa corn for 2009-2014. Two items to note: (1) There is significant year to year variation in the yield differences for some counties (for example, Sioux County has yield variations of 0, -1, -1, -20, and -38); and (2) there are “blank” yields for when FSA used a “plug yield” or when NASS did not report a yield for a county.
The addition of “failed acres” into the yield calculation adds significant year-to-year variation in the yield calculations. In a year when failed acres are large, it has the effect of potentially increasing the ARC-CO payment if prior years’ yields were not affected by failed acres, although this effect is capped by the law’s limitation at ten percent of the benchmark revenue. But, in subsequent years, it has the effect of potentially sharply reducing the benchmark revenue and thus sharply reducing the “safety net” effect of the ARC-CO program.

Additionally, farm level crop insurance policies provide coverage for failed acres. Including failed acres into the ARC-CO formula and thus potentially increasing ARC-CO payments, opens the possibility that ARC-CO program participants who also buy crop insurance may be viewed as receiving double coverage on the failed acreage portion as they could see an increased ARC-CO payment and a crop insurance indemnity for the failed acreage.

**OPTION #1**

Mandate use of FSA harvested acres. This should reduce the year-to-year and county-to-county variation in yields. Where NASS data exists, FSA yield will always be equal to or less than NASS yield. Since ARC-CO payments increase with lower yields, this will increase payments and reduce variability across county lines.

**OPTION #2**

Use RMA yield data as the first priority in the cascade rather than county NASS data. This takes into account failed acres and is likely more accurate on those acres for which yields are actually reported. However, in many areas, RMA data may not be as statistically robust as NASS survey data since not all acres are reported to RMA.

**SIDE NOTES**

Neither options #1 or #2 would likely reduce year-to-year and county-to-county yield disparities, but neither addresses those areas where neither NASS nor RMA data is statistically robust. Currently for such areas, the yield is determined by NASS crop reporting districts or by the state FSA director. Both of those add another element of variability. Using RMA data for the ARC-CO program would require changes in confidentiality rules and regulations. Currently, RMA reported yield data cannot be shared with anyone. Even companies selling crop insurance are only allowed access to the data for their own book of business.

Currently, RMA does not provide aggregated yield numbers. That may have to change because RMA will need to report an average county yield in order to operate the Supplemental Coverage Option (SCO) program. A large number of crops and counties now have SCO policies available, so the RMA will need to provide county yields to settle SCO claims.

**OPTION #3**

Use RMA yield data as the first priority in the cascade rather than county NASS data. This takes into account failed acres and is likely more accurate on those acres for which yields are actually reported. However, in many areas, RMA data may not be as statistically robust as NASS survey data since not all acres are reported to RMA.