



New Programs in the 2014 Farm Bill: Price Loss Coverage, Agricultural Risk Coverage and the Supplemental Coverage Agricultural Insurance Option for Wyoming Farms and Ranches

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Introduction

The Agricultural Act of 2014 was signed into law on February 17, 2014 by President Obama. The Act, widely referred to as the 2014 Farm Bill, introduces major changes in many U.S. farm programs that are important for farm and ranch owners and managers in Wyoming. Under the provisions of the 2014 Farm Bill, several long standing programs related to farmers' and ranchers' risk management decisions that have been widely used by Wyoming agricultural producers were terminated or are being phased out while several new programs have been introduced.

This policy issues paper identifies and briefly describes the major programs affecting crop producers that were terminated or are being phased out under the provisions of the 2014 Agricultural Act.

Three important new programs for Wyoming farms and ranches are then described. These are the **Price Loss Coverage** (PLC) program, the **Agricultural Risk Coverage** (ARC) program and an insurance program called the **Supplementary Coverage Insurance Option** (SCO). Under the PLC, payments to crop producers are triggered by relatively low crop prices. Under the ARC, payments to crop producers are triggered by relatively low per acre crop revenues.

On a crop by crop basis, owners and operators are required to make a one-time decision for the entire duration of the 2014 Agricultural Act (which applies to the 2014-2018 crop years) about whether to participate in the PLC or the ARC program. At this time, it is expected that the PLC-ARC decision will have to be made by farmers sometime in either December of 2014 or by mid-February of 2015 and that that decision will apply to crops harvested in the 2014, 2015, 2016, 2017 and 2018 crop years.

If a crop is enrolled in the ARC program, it cannot be covered under the new SCO program but if the crop is enrolled in the PLC program it can also be covered under the SCO program. Wyoming crop producers will have to make an important long term decision about which of the two new programs, PLC or ARC, is most likely to best serve their risk management needs for each crop they grow.

This policy issues paper therefore provides examples of how the two programs operate and how government payments to their operations under each of the two programs may vary, depending on the future behavior of crop prices and, in the case of the ARC program, on crop yields. The objective is to enable farmers and ranchers to understand how the new programs work so that they can make assessments of which the two programs may be more beneficial for their operations.

It must be emphasized, as is illustrated in the examples presented here, that the effects of the programs depends on what happens to crop prices and, in the case of the ARC program, crop yields over the period 2014 through 2018. Thus farm and ranch owners and operators will have to make their own assessments about what may happen to crop prices in the future in determining which program will be most useful in the context of their risk and financial management strategies.

Farm Subsidy Programs to be Terminated or Phased Out

Under the provisions of the 2014 farm bill, several farm subsidy programs have been discontinued. These include the following programs that have been used by crop producers in Wyoming:

- The *Direct Payments Program*. This program was introduced in the 1996 Farm Bill and subsequently modified in 1998 and 2002. The program made fixed annual payments to producers on the basis of a farm's historically determined production of a crop that effectively were unrelated either to current market prices or the farm's current production decisions. Crops covered included wheat, corn, grain sorghum, barley, oats, upland cotton, rice, peanuts, soybeans, other oilseeds (including canola, sunflower, safflower, mustard seed, etc.), small and large chickpeas, dry peas, and lentils. Payment limits applied.
- The *Countercyclical Payments Program (CCP)*. This program was introduced in the 2002 farm bill and made payments to producers of eligible crops when annual average prices for the current crop marketing year fell below

predetermined trigger levels. CCP payments were also made on the basis of a farm's historically determined production of the crop, not the farm's current crop year production decision. Crops covered also included wheat, corn, grain sorghum, barley, oats, upland cotton, rice, peanuts, soybeans, other oilseeds (including canola, sunflower, safflower, mustard seed, etc.), small and large chickpeas, dry peas, and lentils. Payment limits applied.

- **The Average Crop Revenue Program (ACRE).** This program, introduced in the 2008 farm bill, made payments to farmers for the same set of crops covered by the CCP when, on a state wide basis, estimated current year per acre revenues for a crop fell sufficiently below their recent historical average levels. Payments, which would have mainly been driven by declines in crop prices, were capped at 25 percent of those recent per acre average revenue levels. The program was available for the same crops eligible for the CCP and farmers had to choose to participate in either the CCP or the ACRE program, and could not use the CCP for one crop and ACRE for another crop. Payment limits applied.
- **The Supplementary Revenue Assistance program (SURE).** This program, which was introduced in the 2008 farm bill, has been discontinued. The program provided subsidies that would be paid on shallow losses incurred on all acres planted to a crop in the current year. Producers were required to have crop insurance coverage to be eligible for SURE payments which would potentially be available if the farm were located in county declared to have experienced a disaster by the Secretary of Agriculture or in an adjacent county. Funding for the SURE program expired in 2011, but unlike disaster aid programs targeted for livestock losses and livestock forage losses, funding for the SURE program was not renewed under the provisions of the 2014 farm bill. Payments under this program were capped at \$100,000 per year.

New Agricultural Crop Subsidy Programs

Several major new programs have been introduced in the 2014 farm bill. In addition, four disaster programs established by the 2008 farm bill, but under that Act only funded through the end of 2011, have now been reestablished and refunded for the next five crop years from 2014 through 2018. These disaster aid programs provide farmers with compensation for drought and fire related livestock forage losses, excessive livestock mortality losses, damage to trees and orchards, losses associated with farmed fish and bee colony collapse. The refunded livestock disaster aid programs are described in detail in another publication.¹ The major new programs included in the 2014 farm bill that are designed to provide income protection for farmers who raise crops in Wyoming are:

- The Price Loss Coverage Program (PLC);
- The Agricultural Risk Coverage program (ARC); and,
- The Supplementary Coverage Option insurance program (SCO),

The three programs are available for the following commodities: wheat, corn, grain sorghum, barley, oats, upland cotton, rice, peanuts, soybeans, other oilseeds (including canola, sunflower, safflower, mustard seed, crambe, and other minor oilseeds), small and large chickpeas, dry peas, and lentils. These are the same commodities for which farmers received subsidies under the discontinued DP, CCP, and ACRE programs.

For each crop, a farm has to choose whether to participate in the PLC program or the ARC program. If the PLC program is chosen, then the farm may also choose to obtain additional insurance coverage for the crop in the new SCO program.

If the ARC program is chosen for the crop, then the farm cannot purchase SCO coverage for that crop. The ARC program has two options: (1) a farm can base its participation in the ARC program on how county wide yields for a crop perform or (2) on the yields for the crop on the farm's own land.

¹ The refunded livestock disaster aid programs are described and discussed in Montana State University Agricultural Marketing Policy Briefing paper 44.

If the farm yield option is selected, a farmer will receive payments on substantially fewer acres than if the county yield option is selected. In addition, the farm will also have to enroll all of its crops in the ARC program. If the farm chooses to base its ARC participation on county yields, it will receive ARC payments on 85 percent of the farm's base acres for each crop enrolled in the program. If the farm yield option is selected for the crop, a producer will receive payments only on 65 percent of the farm's base acres for the crop. In addition the producer must also select the ARC farm yield option for all of the farm's crops; that is, the farm will not be allowed to enroll any crop in the PLC program.

The Price Loss Coverage (PLC) Program

The **price loss coverage program** has the following structure. A **reference price** is established for each eligible commodity. If the **national average marketing year price** for the crop, as reported by the USDA National Agriculture Statistical Service (NASS), falls below the **reference price**, the farmer receives a payment equal to the difference between the crop's **reference price** and the **national average price over the marketing year** on the amount of the crop eligible for such payment. For example, suppose the reference price for wheat is \$5.50 per bushel of wheat. If the national average price for wheat reported by NASS for the 2014 crop year is \$5.00 per bushel then the per bushel **price loss coverage payment** will be \$0.50, the difference between the national average marketing year price and the reference price for the crop (\$5.50 - \$5.00). Reference prices for all commodities covered under the PLC program are presented in table 1.

Under the PLC, a farm establishes a historical production base for each eligible crop and receives PLC payments for a crop on 85 percent of that historical production base. The farm's production base is calculated by multiplying a historically determined amount of base acres for the crop by a historically determined per acre base yield for the crop. The producer does not have to plant the base acres for a crop to that crop, or even any acres to the crop, to be eligible for a PLC payment; in fact, either more acres or fewer acres than the farm's base acres for a crop may be planted to that crop.

A PLC example

Suppose a farm has established 1,000 acres of wheat base and a payment yield for those base acres of 27 bushels per acre. The farm's PLC production base used to determine PLC payments will then be 27,000 bushels (27 bushels per acre x 1,000 acres). The farm will receive a total PLC payment equal to the per bushel price loss coverage payment which is determined by the difference between the reference price of \$5.50 and the national average marketing year price of \$5 reported by NASS (0.50 dollars/bushel) on 85 percent of its production base (85 percent of 27,000 bushels of wheat).

In this case, therefore, the example farm would receive a wheat PLC payment of \$11,475 [85% x (27,000 bushels x \$0.50)].

PLC and ARC Base Acres and Base Yields

Under the statute's provisions, agricultural producers have the option of using the base acres and base yields that determined the subsidies they received under the now discontinued Direct Payments Program in the new PLC and ARC programs. For many farms in Wyoming, these base acres and base yields were established on the basis of the crop yields for each eligible crop obtained in the early and mid-1980s and the areas planted to those crops up to the early 1990s. Some farmers may have chosen to up-date their base acres and base yields in late 2002 under the base updating option provided to them in the 2002 Farm Bill, in which case their current base acres will have been determined by their planting decisions and yields over the four year period 1998-2001, with yields over that period adjusted downwards to be comparable to those they would have achieved in the mid-1980s.

However, under the 2014 Farm Bill, farmers will also have the option of updating their production bases using much more recent data on areas planted to crops (the annual averages of the areas planted to each eligible crop over the **four year period** 2009 through 2012) and yields (the annual average yields on planted acres over the **five year period** 2008 through 2012). Under the base updating process, payment yields for each eligible crop will be set equal to 90 percent of the average yield for that crop on planted acres over the five year period 2008-2012. Farmers are

likely to update their production bases to take advantage of increases in their wheat yields over the past thirty years if those wheat yield increases have been substantial.

The structure of the PLC is essentially identical to the structure of the CCP, for which it is a replacement. The only differences are (1) that the prices that will trigger payments under the PLC are much higher than those used under the CCP, and (2) the production bases on which PLC payments will be made are likely to be larger for many crops because of base updating that results in substantially higher yields (see table 2 that, for a selection of crops, compares the reference prices that would trigger payments under the CCP and the PLC).

Note that the PLC is not an insurance program.

Farmers do not have to pay any premiums to participate in the program. Nor do they have to plant a crop for which they have a production base. However, to be eligible they may be required to satisfy conservation compliance requirements, as was the case with the direct payments, CCP and ACRE programs.

The Agricultural Risk Coverage Program

The ***agricultural risk coverage program*** (ARC) makes payments to farmers when, in the current year, the estimated average revenue per acre for a crop (the current year crop yield multiplied by the national average marketing year price for that crop) falls below 86 percent of the ***estimated historical average per acre revenue for the crop*** over the most recent five years.

The ARC historical average per acre revenue for the crop, called the crop's ***benchmark revenue***, is computed as follows.

First, a per acre historical Olympic average yield is computed using the previous five years of realized yields for the crop.² Second, a separate historical

Olympic average price is computed using the national average marketing year prices for the crop (as reported by NASS) for the same previous five years.

It is important to note that, in computing the five year Olympic average price used to calculate the ***benchmark revenue*** for a crop, if the national average price reported by NASS falls below the PLC reference price for the crop then the reference price is used in computing the historical average price. Thus, the ARC Olympic average for a crop's price can never be lower than the PLC reference price (table 1).

The ***benchmark revenue*** for the crop is simply calculated by multiplying the estimated historical average yield by the estimated historical average price. A detailed example of how the benchmark revenue is calculated is presented below (table 3).

The benchmark revenue for a crop is then multiplied by 86 percent to obtain the ***agricultural risk coverage guarantee***.

The farmer receives a payment when the estimated per acre ***actual crop revenue*** for the current crop year, defined as the current crop year per acre yield multiplied by the national marketing year average price for the crop, is smaller than the applicable ***agricultural risk coverage guarantee***.

The farmer is then paid the difference between the applicable ***agricultural risk coverage guarantee*** and the estimated ***actual crop revenue*** on each acre eligible for a payment under the program. On a per acre basis, the ARC payment is capped at ten percent of the ***benchmark revenue*** used to calculate the ***agricultural risk coverage guarantee***.

The ARC county yield and farm yield options

The farmer has two options within the ARC program: payments can be based on either the farm's own current and historical yields for the crop (both in computing the historical average per acre revenue for

² An Olympic yield (or price) average is computed by dropping the highest and lowest yield (price) values in the series and calculating the average of the remaining yield (price) values. Suppose, for example, that per acre yields over the past five years were 30, 20, 45, 36 and 27 bushels. The high and low yields (45 bushels and 20 bushels) would be dropped. The average of the remaining three yields – 30, 36, and 27 bushels – would then be computed to obtain the five year Olympic average for crop yields. In this example the five year Olympic average for yields would be 31 bushels (= (30 + 36 + 27)/3).

the crop and the estimated current year revenue) or current and historical average yields in the county in which the farm is located.

If the farm chooses to base its ARC program participation on its own yields for a crop, however, it will receive ARC payments on only 65 percent of the farm's base acres for that crop. In addition, the farm will also have to enroll all of its crops in the ARC program.

An ARC County Yield Example

The ARC program is more complex than the PLC program because, regardless of the ARC option selected by a farm, the revenue trigger for an ARC payment, the **revenue guarantee**, is likely to change from one year to the next.

To illustrate how the ARC revenue guarantee works, consider an example which is based on county wide average yields for spring wheat produced on dryland in a summer fallow rotation. In the example, annual yields are benchmarked using average spring wheat yields for all of Wyoming as reported by the USDA National Agricultural Statistical Service (NASS) and year to year variability in those yields is mainly associated with annual differences in weather conditions. The example annual county yields are presented in column 2 of table 3.

The national average marketing year prices for wheat reported by NASS for the years 2009 to 2013 are reported in table 3 (column 3). The prices recorded for the years 2014-2017 are the February 2014 USDA forecasts of national average wheat prices for those years.

The prices used to compute the Olympic average price for each year from 2014 to 2017 (table 3, column 4) are the NASS reported (or USDA February forecast) annual average prices unless the PLC wheat reference price is higher than the NASS price. In that case the PLC reference price is used. For example, in 2009, NASS reported the marketing year average wheat price as \$4.87 and so, in computing the Olympic average price for 2014, the NASS price is replaced by the PLC reference price of \$5.50 per bushel. Similar substitutions are made for 2014 through 2017.

The estimated five year Olympic county average yield for wheat for each year over the period 2014 through 2017 is computed (column 5, table 3), as is the estimated five year Olympic average price for wheat over that period (column 6, table 3).

The estimated per acre **benchmark revenue** for each year from 2014 through 2017 is computed by multiplying each year's county Olympic average yield by that year's estimated Olympic Average price (column 7, table 3). The ARC county **revenue guarantee** for the same years is then computed as 86 percent of the ARC **benchmark revenue** (column 8, table 3).

The example shows that, while the estimated ARC **benchmark revenue** (and therefore the county ARC **revenue guarantee**) increases each year between 2014 and 2016, rising from \$186.43 in 2014 to \$188.63 in 2015 and \$195.40 in 2016, those changes are relatively small. The main reason is that the Olympic average price does not change very much over that three year period (falling very modestly from \$6.58 per bushel in 2014 and 2015 to \$6.51 per bushel in 2016). The moderate increase in the ARC county **benchmark revenue** in 2016 is caused by a moderate increase in the county Olympic average yield from 28.7 to 30 bushels an acre.

In 2017, however, the Olympic average price drops substantially (from \$6.51 to \$5.93) because a relatively high price (the 2011 national average price of \$7.24 per bushel) is no longer used in the Olympic average price calculation and is replaced by a much lower price (\$5.50 per bushel). In addition, the Olympic average county yield declines from 30 bushels in 2016 to 28 bushels in 2017. As a result, the ARC county **benchmark revenue** falls from \$195.40 to \$166.13 and the per acre ARC county **revenue guarantee** correspondingly declines from \$168.04 to \$142.87.

The farm receives an ARC payment when the estimated per acre **actual crop revenue** in the current year is smaller than the ARC **revenue guarantee** for that year. For the county, **actual crop revenue** is calculated by multiplying the national average marketing year price by the county wide average yield for the current year, where both the prices and yields are those reported by NASS (table 3, column 8).

In the example, in all four years (2014-2017), the estimated **actual crop revenue** is smaller than the ARC **revenue guarantee** and so the farm receives an ARC payment in each of those years. The differences are reported (table 3, column 10). On a per acre basis, in any given year the ARC payment is capped at ten percent of the ARC **benchmark revenue** for that year.

If the difference between the ARC revenue guarantee and the estimated actual crop revenue (table 3, column 10) exceeds the payment cap (table 3, column 11) then the farmer receives only the revenue cap. This is the case in 2014, 2015 and 2016 (table 3 column 12). For example, in 2016, the difference between the ARC revenue guarantee and the estimated actual crop revenue is \$77.40 (because of a low national average marketing year price and low yields in the county) but the ARC payment cap is \$19.54. When the ten percent cap is not binding, as in 2017, the farmer receives the actual difference between the ARC revenue guarantee and the estimated actual crop revenue on each eligible acre (table 3, column 12).

The reason for the ten percent cap on ARC program per acre payments is that the ARC program is intended to cover relatively shallow losses rather than all losses. The farm is expected to use yield or revenue products available through the federal crop insurance program to cover losses when either per acre yields or per acre revenues fall much below 75 percent of their expected levels for a crop covered by the ARC program.

Were a farm's per acre yields identical or very similar to the county per acre yields, and the farm selected the farm-yield based ARC program for its wheat crop, then the farm would only receive an ARC per acre payment on 65 percent of its eligible acres. For the farm yield ARC option to be attractive, it is likely that the farm yield (and therefore the farm yield option ARC cap) would on average have to be substantially higher than the county yield (to make up for the fact that payments are made on 20 percent fewer acres under the farm yield option). In addition, from one year to the next, on a proportional basis farm yields would likely have to be much more variable than county yields (which is in fact often the case). *Comparing PLC and county based ARC payments on a per acre basis.*

The payments that would be made on a per acre basis over the period 2014 to 2017 basis under the PLC and county option ARC programs, assuming that the February, 2014 USDA forecasts of wheat prices hold, are compared (table 4).

The payments would be made under each of the programs if national average marketing year wheat prices are 50 cents per bushel (about 12 percent) higher than the USDA February 2014 forecasts are also reported (table 5). What those payments would be if wheat prices are one dollar (24 percent) higher than the USDA forecasts are also calculated (table 6).

The PLC estimates are based on the assumption that the farm's PLC average yield is identical to the county average yield of 27 bushels and that any payments made are based on 90 percent of that per acre average yield (as required in the PLC program).

It must be emphasized that the comparisons in tables 4 through 6 are only illustrative. However, the three comparisons do provide useful insights about how the ARC and PLC programs may work. In the example in which prices for wheat are assumed to be much lower than over the period 2009-2013 (when, for example, in 2013 the national average price of wheat was \$6.80 per bushel (table 3, column 3)), the ARC revenue guarantee remains relatively stable from 2014 through 2016, only falling in 2017 (as shown in table 3 and also in table 4). On a per acre basis, therefore, ARC payments also remain relatively stable until 2017. They increase from \$18.64 in 2014 to \$19.54 in 2016, but then decrease by 29 percent to \$13.82 in 2017. In three of the four years, as discussed above, the ten percent cap on total ARC payments comes into play; that is, the maximum ARC payment is ten percent of the Olympic average revenue per acre.

When national average marketing year prices are assumed to be higher (12 percent higher in table 4 and 24 percent higher in table 5), the ARC payment becomes much more volatile from one year to the next and, on average, is much lower. When wheat prices are about 12 percent higher (table 5) the ARC payment is zero in 2017 (when the ARC **revenue guarantee** of \$142.87 is less than the estimated **actual revenue** of \$143.55) but is at its cap of \$19.54 in 2016 (when

county wide yields are very low (most likely because of severe drought).

Under the highest price scenario in which national average prices for wheat are assumed to be one dollar higher than the USDA February 2014 price forecasts (table 6), per acre ARC payments are zero in 2015, and 2017, only \$1.03 in 2014, but remain capped at their maximum level in 2016 (when county wide yields are very low).

Higher market prices for wheat also have substantial effects on PLC payments per acre. When the lowest wheat price forecasts are used (table 4), payment rates under the PLC range from \$0.60 per bushel in 2015 (the PLC reference price of \$5.50 minus the USDA forecast price of \$4.90) to \$1.20 in 2016. With the exception of 2014, when the price forecast for wheat is the highest (\$4.90) and, as a result, per acre ARC payments (\$16.41) are higher than PLC payments (\$14.58), PLC payments for the example farm are substantially higher than ARC payments. In 2016, for example, PLC payments are \$29.16 per acre and ARC payments are \$16.88 per acre.

If national average marketing year prices for wheat are higher (as in tables 5 and 6), then PLC payment rates and PLC payments per acre fall and are relatively small, but, as discussed above, ARC payments also change.

For example, if prices are 50 cents per bushel higher than the USDA forecasts (table 5), ARC per acre payments are either substantially larger (\$14.53 for ARC as compared to \$2.70 for PLC in 2014), quite similar (\$19.94 for ARC as compared to \$18.90 for PLC in 2016), or much lower (as in 2015 and 2017).

If prices are one dollar per bushel higher than the lowest price forecasts (table 6), then PLC payments are not made in 2014 (the assumed national average marketing year per bushel average price for wheat of \$5.90 exceeds the PLC reference price of \$5.50 per bushel and the PLC payment rate is zero). In other years, the PLC payment rate is relatively small, and PLC payments per acre are correspondingly low, ranging from \$2.43 per acre in 2017 to \$4.86 per acre in 2017. ARC payment rates are zero in 2015 and 2017 (when the county's per acre revenue exceeds the ARC revenue guarantee) relatively modest in 2014 (\$4.79)

and relatively large in 2016 (\$19.63) when, as shown in table 3, the county yield of 18 bushels per acre is well below its long run average level of 27 bushels per acre) and the national average market price is also relatively low.

Implications

The above examples highlight a key issue that farm and ranch managers must consider in making their decisions about whether to enroll a crop in the ARC or PLC program. What happens to future prices for a commodity over the period 2014 through 2018 (the five crop years covered by the provisions of 2014 farm bill) will heavily affect the payments received for a given crop.

If the price of a crop is expected to be substantially lower than the PLC reference price over that period then it is quite likely that, for that crop, the PLC program will be relatively attractive. An additional incentive for PLC participation would be that all acres planted to that crop would be eligible for additional subsidized insurance coverage under the new Supplementary Coverage Option insurance program (discussed in the next section).

If, on the other hand, prices for the crop are expected to be relatively high, close to, or in excess of the PLC reference price, the ARC program may be more attractive. However, farm and ranch managers have to recognize that if the crop is enrolled in the ARC program, then it cannot be insured under the new SCO program. Of course, all acres of the crop can continue to be insured under existing RMA actual production history (APH) or group risk programs.

A final word of caution: in the above example, the farm is assumed to use the county yield version of the ARC program in making its decision about program participation. In that case, the farm would receive payments on 85 percent of its base acres of production of the crop. In addition, if the farm wanted to enroll a different crop (say barley or corn) in the PLC program and also purchase additional coverage for that crop under the SCO, then it could do so. If the farm wanted to enroll the crop in the ARC program based on the farm's own yields and yield history, then all crops on the farm would have to be enrolled in that program;

no crops could be enrolled in the PLC or SCO programs; and ARC payments would be made on only 65 percent of the farm's base acres for each eligible crop.

The Supplementary Coverage Option (SCO)

The SCO is an insurance product that allows farmers to obtain coverage through a group based area yield or revenue insurance product for shallow losses. It will be available for crops enrolled in the PLC program but not for crops enrolled in the ARC program. The program will not be implemented until the 2015 crop year.

Under the SCO, farmers have the option of purchasing an area yield or area revenue product that will pay them an indemnity when, at the county level, either average yields (in the case of the county yield product) or average revenues per acre (in the case of the county revenue product) fall below 86 percent of their expected levels. The expected county average yield or average revenue per acre will be determined by the USDA Risk Management Agency (RMA). Coverage will be capped at the difference between 86 percent of the expected area yield or revenue and the level of coverage selected by the farm under an underlying federally subsidized insurance contract.

For example, a farm that typically uses an Actual Production History (APH) insurance product based on the farm's own yield history may select a coverage level of 75 percent for on-farm yield losses, meaning that it will only receive an indemnity under that contract when the farm's actual yields or revenues fall below 75 percent of their expected level.

In that case, the farm can use an SCO insurance contract where payments for losses are capped at 11 percent (the difference between 86 percent and the farm's selected 75 percent coverage level for its underlying insurance contract).

The farmer is required to pay only 35 percent of the actuarially fair premium for an SCO contract, where the actuarially fair premium is the expected average annual indemnity payment. The federal government

will pay all administrative costs and the remaining 65 percent of the actuarially fair premium.

Every acre planted to a crop can be covered under an SCO as long as those acres are also covered under a standard federal agricultural insurance contract (for example, an APH yield or revenue contract or a standard county based group revenue or yield contract).

At this time (June 2014), RMA has not yet developed and published SCO insurance premium rates for crops produced in 2015. The 2014 Agricultural Act requires RMA to offer the SCO for the 2015 crop year. So it seems possible that for crops such as winter wheat (for which the crop planted in the fall of 2014 will be harvested in 2015) premium rates will become available by the fall of 2014. For other crops such as spring wheat and corn, for which sign up dates for existing RMA federal crop insurance products are in March and April of 2015, SCO premium rates for those crops may be available somewhat later.

Summary

The 2014 Agricultural Act provides farmers with important new programs for a range of crops that have previously been eligible for government payments under the Countercyclical Payments program, the Direct Payments program and the Average Crop Revenue (ACRE) program, all of which have been discontinued. These new programs are the Price Loss Coverage (PLC) Program, the Agricultural Risk Coverage (ARC) Program and the Supplementary Coverage Option insurance (SCO) program. Farmers may enroll different crops in either the PLC or ARC program based on county yields, but is required to enroll all crops in the ARC if the farm yield option of that program is utilized. If the PLC option is selected for a crop then the farmer may also use the SCO program for that crop, but if the ARC program is selected then the farmer cannot also use the SCO program for that crop, regardless of the ARC option that is selected.

The examples presented above highlight a key issue that farm and ranch managers must consider in making their decisions about whether to enroll a crop in the ARC or PLC program. What happens to future prices for a commodity over the period 2014 to 2018 (the five

crop years covered by the provisions of 2014 farm bill) will heavily affect the payments received for a given crop. If prices for a crop are expected to be substantially lower than the PLC reference price over that period then, for that crop, the PLC program may be relatively attractive to many producers. An additional incentive for PLC participation would be that all acres planted to that crop would be eligible for additional subsidized insurance coverage under the new Supplementary Coverage Option insurance program.

If, on the other hand, prices for the crop are expected to be relatively high, close to, or in excess of the PLC reference price, the ARC program may be more attractive. However, farm and ranch managers have to recognize that if the crop is enrolled in the ARC program, then it cannot be insured under the new SCO program. Of course, all acres of the crop can continue to be insured under existing RMA actual production history (APH) or group risk programs.

Table 1. Price Loss Coverage Reference Prices for Covered Commodities

Crop	Unit	Price Loss Coverage Reference Price
Wheat	bushel	\$5.50
Barley	bushel	\$4.95
Oats	bushel	\$2.40
Corn	bushel	\$3.70
Grain Sorghum	bushel	\$3.95
Rice	cwt	\$14.00
Minor Oilseeds	cwt	\$20.15
Soybeans	bushel	\$8.40
Peanuts	Ton	\$535.00
Dry Peas	cwt	\$11.00
Lentils	cwt	\$19.97
Small Chickpeas	cwt	\$19.04
Large Chickpeas	cwt	\$21.54

Source: USDA

Table 2. A comparison of the CCP and PLC payment trigger prices

Commodity	CCP Payment Trigger Price	PLC Payment Trigger Price	Percent Increase in PLC Payment Trigger Price ^A
Corn	\$2.35/bu	\$3.70/bu	57%
Wheat	\$3.65/bu	\$5.50/bu	53%
Soybeans	\$5.56/bu	\$8.40/bu	66%
Peanuts	\$459/ton	\$535/ton	17%
Rice	\$8.15/cwt	\$14/cwt	72%
Barley	\$2.39/bu	\$4.95/bu	107%

Source: USDA

^AThe percent increase the PLC payment trigger is computed by dividing the PLC trigger price by the CCP trigger price and converting the values to percentage increases.

Table 3. An Agricultural Risk Coverage Dryland Spring Wheat Example for a Representative Wyoming County

1	2	3	4	5	6	7	8	9	10	11	12
Year	County Average Yields (bu per acre)	National Average Marketing Year Price (\$ per bushel)	Prices Relevant to Computing Wheat Price Olympic Average ^A (\$ per bushel)	Yield Olympic Average ^B (bu per acre)	Price Olympic Average ^B (\$ per bushel)	County Benchmark Revenue ^C (\$ per acre)	County Revenue Guarantee ^C (\$ per acre)	Current Year County Revenue ^D (\$ per acre)	Difference Between County Revenue Guarantee and Current Year County revenue ^D (\$ per acre)	ARC Payment Cap ^E (\$ per acre)	ARC Per Acre Payment ^E (\$ per acre)
2009	17	\$4.87	\$5.50	na	na	na					
2010	28	\$5.70	\$5.70	na	na	na					
2011	32	\$7.24	\$7.24	na	na	na					
2012	26	\$7.77	\$7.77	na	na	na					
2013	31	\$6.80	\$6.80	na	na	na					
2014	27	\$4.90	\$5.50	28.3	\$6.58	\$186.43	\$160.33	\$132.30	\$28.03	\$18.64	\$18.64
2015	32	\$4.35	\$5.50	28.7	\$6.58	\$188.63	\$162.22	\$139.20	\$23.02	\$18.86	\$18.86
2016	18	\$4.30	\$5.50	30.0	\$6.51	\$195.40	\$168.04	\$77.40	\$90.64	\$19.54	\$19.54
2017	29	\$4.45	\$5.50	28.0	\$5.93	\$166.13	\$142.87	\$129.05	\$13.82	\$16.61	\$13.82

Source: Authors. Data on national average marketing year prices for 2009-2013 obtained from USDA.

Yields are for a representative Wyoming county in which average yields are expected to be 27 bushels per acre.

^A Where NASS reports a national average price of less than the PLC reference price of \$5.50/bu for wheat (shown in red in column 3), the PLC reference price replaces the price reported by NASS in column 4.

^B Five year Olympic averages for yields and prices are computed by dropping the highest and lowest values for the previous five years and using the remaining three observations. For example, county wide average yields in the five years preceding 2014 were 17, 28, 32, 26 and 31 bushels per acre. Omitting the high and low values (17 and 32 bushels per acre), the remaining three values are 28, 26 and 31 bushels per acre, which result in a five year historical Olympic average yield for the county of 28.3 bushels per acre (reported in column 5). A similar method is used to compute the five year Olympic averages for national average prices reported in column 6, using the price information in column 4.

^C The **ARC benchmark revenue** reported in column 7 is calculated by multiplying the Olympic average yield (column 5) by the Olympic average price (column 6). The **ARC revenue guarantee** reported in column 8 is obtained by multiplying the **ARC benchmark revenue** by 86 percent (0.86).

^D The estimated current year average county revenue per acre reported in column 9 is the current year yield (column 2) multiplied by the national average price as reported by NASS (column 2), and the difference between the **ARC revenue guarantee** and the current year county average revenue (column 8 minus column 9) is reported in column 10.

^E In each year, the per acre **ARC payment** is capped at ten percent of the per acre **ARC benchmark revenue** for that year. The estimated payment cap for wheat in the county is presented in column 11. Thus, as shown in column 12, the farmer receives a per acre ARC payment that equals the cap if the difference between the **ARC revenue guarantee** and the estimated current year county revenue per acre exceeds the cap. This is the case in 2014, 2015 and 2016. Otherwise the farmer receives the difference between the **ARC revenue guarantee** and the estimated current year county revenue per acre, as in 2017.

Table 4. Comparison of ARC and PLC per acre payments, Assuming USDA February 2014 Forecasts of the National Average Marketing Year Prices for Wheat

Year	National Average Marketing Year Price (\$ per bushel)	ARC Revenue Guarantee (\$ per acre)	County Average Revenue (\$ per acre)	ARC per Acre Payment (\$ per acre)	PLC Reference Price (\$ per bushel)	PLC Payment per Bushel (\$ per bushel)	PLC Payment per Acre (\$ per acre)
2014	\$4.90	\$160.33	\$132.30	\$18.64	\$5.50	\$0.60	\$14.58
2015	\$4.35	\$162.22	\$139.20	\$18.86	\$5.50	\$1.15	\$27.95
2016	\$4.30	\$168.04	\$77.40	\$19.54	\$5.50	\$1.20	\$29.16
2017	\$4.45	\$142.87	\$129.05	\$13.82	\$5.50	\$1.05	\$25.52

Source: Authors. In the PLC example, the farm is assumed to have established a PLC average yield of 27 bushels per acre over the period 2008-2013, resulting in a PLC per acre payment yield of 24.3 bushels per acre (90 percent of its PLC average yield).

Table 5. Comparison of ARC and PLC per acre payments, assuming that National Average Marketing Year Wheat Prices are 50 cents per bushel higher than the USDA February 2014 Forecasts

Year	National Average Marketing Year Price (\$ per bushel)	ARC Revenue Guarantee (\$ per acre)	County Average Revenue (\$ per acre)	ARC per Acre Payment (\$ per acre)	PLC Reference Price (\$ per bushel)	PLC Payment per Bushel (\$ per bushel)	PLC Payment per Acre (\$ per acre)
2014	\$5.40	\$160.33	\$145.80	\$14.53	\$5.50	\$0.10	\$2.70
2015	\$4.85	\$162.22	\$155.20	\$7.02	\$5.50	\$0.65	\$17.55
2016	\$4.80	\$168.04	\$86.40	\$19.54	\$5.50	\$0.70	\$18.90
2017	\$4.95	\$142.87	\$143.55	\$0.00	\$5.50	\$0.55	\$14.85

Source: Authors. In the PLC example, the farm is assumed to have established a PLC average yield of 27 bushels per acre over the period 2008-2013, resulting in a PLC per acre payment yield of 24.3 bushels per acre (90 percent of its PLC average yield).

Table 6. Comparison of ARC and PLC per acre payments, assuming that National Average Marketing Year Wheat Prices are \$1 per bushel higher than the USDA February 2014 Forecasts

Year	National Average Marketing Year Price (\$ per bushel)	ARC Revenue Guarantee (\$ per acre)	County Average Revenue (\$ per acre)	ARC per Acre Payment (\$ per acre)	PLC Reference Price (\$ per bushel)	PLC Payment per Bushel (\$ per bushel)	PLC Payment per Acre (\$ per acre)
2014	\$5.90	\$160.33	\$159.30	\$1.03	\$5.50	\$0.00	\$0.00
2015	\$5.35	\$163.86	\$171.20	\$0.00	\$5.50	\$0.15	\$3.65
2016	\$5.30	\$171.48	\$95.40	\$19.94	\$5.50	\$0.20	\$4.86
2017	\$5.40	\$146.09	\$158.05	\$0.00	\$5.50	\$0.10	\$2.43

Source: Authors. In the PLC example, the farm is assumed to have established a PLC average yield of 27 bushels per acre over the period 2008-2013, resulting in a PLC per acre payment yield of 24.3 bushels per acre (90 percent of its PLC average yield).



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