

UPDATED

Trend-Adjusted Yield Option Introduced for Crop Insurance



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Starting in 2014, many Maryland wheat producers can select a Trend-Adjusted (TA) yield endorsement. Some corn and soybean producers will continue to have this option. Using this endorsement, a producer can adjust the APH yields to account for better genetics or farming techniques.

Overview

In 2014, Maryland wheat producers will have a new option in their crop insurance coverage. Actual Production History (APH) is a 4 to 10 year yield average used to calculate each producer's production guarantee. Producers with 10-years of yield history are penalized because yields have increased over time, and APH yields can lag behind their most recent yields. Therefore producers with only 4 years of yield history can actually have higher average yields.

Starting in 2014, Maryland wheat producers can select a Trend-Adjusted (TA) yield endorsement. Maryland corn and soybean producers will continue to be able to select a TA yield endorsement. Using this new endorsement, a producer can adjust the APH yields to account for better

genetics or farming techniques.

These yield adjustments are based on historical county-level yield data from USDA National Agricultural Statistic Services. They also include trend controls for weather and spatial considerations. The coverage for qualifying producers who select the TA option will add the county-level trend to their individual APH. The Midwest has been utilizing TA yields since 2012.

Eligibility

A corn, soybean, or wheat producer needs to farm in an eligible county. Currently all Maryland counties have a TA yield for corn. All counties but Allegany and Garrett have a TA yield for soybeans. For wheat, currently Baltimore, Caroline, Carroll, and Cecil, Dorchester, Frederick, Harford, Howard, Kent, Montgomery, Queen Anne's,

Somerset, Talbot, Washington, and Worcester counties have approved TA yields. The corn, soybean, or wheat producer would need to have an actual corn, soybean, or wheat yield in one of the last four years. Producers need to choose the TA yield endorsement for their existing or new insurance policy before March 15 for corn and soybeans and September 30 for wheat, i.e. the sales closing date.

Organic corn, soybean, or wheat producers are not eligible to elect the TA endorsement. Corn produced for silage with a tonnage guarantee is also not eligible. The TA endorsement will not be available for Catastrophic Risk Protection (CAT), Group Risk Plan (GRP), and Group Risk Income Protection (GRIP) policies.

Calculating the TA APH

As stated earlier, RMA will publish a TA yield for each county. Each insured unit within the same county will use the same TA yield adjustment factor. Appendix 1 lays out each TA yield adjustment for Maryland’s counties.

To calculate the impact of electing a TA yield adjustment, a farmer needs to determine the TA for each crop year. The examples in Table 1, Table 2, and Table 3 show the approach for irrigated corn (Table 1), soybeans (Table 2), and wheat (Table 3) grown in Queen Anne’s county with 10 years of yield history. Looking at Table 1, our farmer would plug in their average per acre corn yields for 2004 to 2013. The farmer would be looking at a TA yield adjustment of .99 for non-irrigated corn and 1.04 for irrigated corn. To calculate the TA for each of the 10 years, our farm would use the following formula:

$$(2014 - \text{Year}) * \text{TA rate} = \text{TA}$$

To calculate the trend adjustment for 2004, our farmer would take:

$$(2014 - 2004) * 1.04 = 10 * 1.04 = 10.40$$

For 2005, the TA would equal 9.36 or:

$$(2014 - 2005) * 1.04 = 9 * 1.04 = 9.36$$

Table 1

Trend Adjusted Yield Example for 2014 for Irrigated Corn in Queen Anne’s County			
Year	Actual Yield	Trend Adjustment	Trend Adjusted Yield
2004	128.50	10.40	138.90
2005	164.40	9.36	173.76
2006	149.20	8.32	157.52
2007	155.00	7.28	162.28
2008	120.20	6.24	126.44
2009	125.00	5.20	130.20
2010	146.00	4.16	150.16
2011	128.30	3.12	131.42
2012	101.20	2.08	103.28
2013	120.00	1.04	121.04
	APH = 133.80	TA = 1.04	TA APH = 139.50

Table 2

Trend Adjusted Yield Example for 2014 for Soybean in Queen Anne’s County			
Year	Actual Yield	Trend Adjustment	Trend Adjusted Yield
2004	29.40	3.00	32.40
2005	42.80	2.70	45.50
2006	33.30	2.40	35.70
2007	32.50	2.10	34.60
2008	26.80	1.80	28.60
2009	29.00	1.50	30.50
2010	42.50	1.20	43.70
2011	40.10	0.90	41.00
2012	40.40	0.60	41.00
2013	41.50	0.30	41.80
	APH = 35.80	TA = 0.30	TA APH = 37.48

Appendix 1

2014 Irrigated and Non-Irrigated Corn, Soybean, Wheat
Trend Adjustment Rates in Maryland - Source USDA-RMA*

County	Corn	Soybean	Wheat
Allegany	0.51	-	-
Anne Arundel	1.13	0.37	-
Baltimore	1.13	0.37	0.63
Calvert	0.99	0.22	-
Caroline	Non-Irrigated = 1.03; Irrigated = 1.22	0.24	0.62
Carroll	1.10	0.36	0.76
Cecil	1.00	0.39	0.58
Charles	0.97	0.17	-
Dorchester	Non-Irrigated = 1.09; Irrigated = 1.24	0.23	0.69
Frederick	0.99	0.36	0.76
Garrett	1.27	-	-
Harford	1.06	0.41	0.68
Howard	1.14	0.33	0.76
Kent	Non-Irrigated = 0.89; Irrigated = .90	0.33	0.76
Montgomery	1.14	0.36	0.76
Prince George's	1.07	0.35	-
Queen Anne's	Non-Irrigated = 0.99; Irrigated = 1.04	0.30	0.67
St Mary's	0.98	0.17	-
Somerset	1.05	0.29	0.76
Talbot	Non-Irrigated = 0.97; Irrigated = 1.02	0.22	0.57
Washington	0.50	0.42	0.68
Wicomico	Non-Irrigated = 1.03; Irrigated = 1.09	0.25	-
Worcester	Non-Irrigated = 1.05; Irrigated = 1.08	0.28	0.51



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The TA APH yield endorsement does not cost the producer anything to elect but will change the amount of coverage through the APH. This may change the premium. The same amount of coverage under the TA election always costs the same or less than under the regular APH.

In addition, the farmer needs to calculate the yield cap. The TA would be capped at the year with the highest average yield plus the annual TA. From Table 1, the highest average yield (164.4) would be in 2005. The TA APH would be capped at $(164.4 + 1.04) = 165.44$. From Table 2, the highest average yield (42.8) would be in 2005. The TA APH would be capped at $(42.8 + 0.30) = 43.10$. From Table 3, the highest average yield (70.0) would be in 2009. The TA APH would be capped at $(70.0 + 0.67) = 70.67$. The TA APH could not exceed these caps. So the highest our farmer could expect his/her APH to trend upward is to 165.44 for irrigated corn, 43.1 for soybeans, and 70.67 for wheat. Table 1 reveals that our hypothetical farmer could increase his APH yield by close to 6 bushels per acre from electing to use the TA option. A soybean farmer could increase APH yield by 1.65 bushels per acre from electing to use the TA option (Table 2). A wheat producer

*Unless otherwise stated, TAs for irrigated and non-irrigated are the same.

could increase APH yield by 3.69 bushels per acre from electing to use the TA option (Table 3).

Years of Yield History

One’s total trend adjustment depends on the number of years of yield history used to calculate the APH. To receive 100 percent of the trend adjustment, a producer will need to have at least 4 or more years of a yield history in the last 12 years. Producers with yields for 3 years out of the last 12 years will be able to receive 75 percent of the trend adjustment. Producers with a yield history for 2 years out of the last 12 years will only receive 50 percent of the trend adjustment. Producers with yields for 1 year out of the past 12 years will only receive 25 percent of the trend adjustment.

Premiums

The TA APH yield endorsement does not cost the producer anything to elect but will change the amount of coverage through the APH which may change the premium. The same amount of coverage available from using the TA election always costs less or the same as it would cost to purchase the increased protection by increasing the level of coverage without TA. The real benefit of electing the TA option is that it could allow a producer to buy a lower level of coverage, but because of the trend adjustment still receive the higher coverage. Consider a producer with an APH of 135 and who typically buys coverage at the 75% level at 101.25 bu./acre coverage (Table 4). By electing to use the TA endorsement, the producer could potentially be able to gain the same level of coverage at the 70% level (Table 4). A producer could experience premium savings by being able to buy down coverage levels. ■

Table 3

Trend Adjusted Yield Example for 2014 for Wheat in Queen Anne’s County			
Year	Actual Yield	Trend Adjustment	Trend Adjusted Yield
2004	60.0	6.70	66.70
2005	63.5	6.03	69.53
2006	64.2	5.36	69.56
2007	51.2	4.69	55.89
2008	55.6	4.02	59.62
2009	70.0	3.35	73.35
2010	68.3	2.68	70.98
2011	62.3	2.01	64.31
2012	56.3	1.34	57.64
2013	66.7	0.67	67.37
	APH = 61.80	TA = 0.67	TA APH = 65.50

Table 4

Comparison of per Acre Guarantee Based on Coverage Level with No TA and with TA		
Coverage Level	Bushel Guarantee APH = 135 (No TA)	Bushel Guarantee TA APH = 143 (with TA)
50%	67.50	71.50
55%	74.25	78.65
60%	81.00	85.80
65%	87.75	92.95
70%	94.50	100.10
75%	101.25	107.25
80%	108.00	114.40
85%	114.75	121.55

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Trend-Adjusted Actual Production History Federal Crop Insurance Endorsement in Maryland

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