



# State and Regional Impacts of a Nationwide Mandatory Base Acre Update

## Working Paper 19-3 April 2019



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#### Introduction

Countless hours of analysis, debate, and negotiations culminated in the signing of the 2018 farm bill, formally titled the Agriculture Improvement Act of 2018, by President Trump on December 20, 2018. Given the fiscal climate created by the growing national debt and the desire to reduce government spending, funds needed to improve the farm bill safety net programs were in short supply. The funding situation necessitated that any requested improvements to the farm safety net would likely result in reductions in funding in other areas of the bill. One option discussed as a potential avenue for freeing up money was a forced update of base acres used in the calculation of payments for Price Loss Coverage (PLC) and Agriculture Risk Coverage (ARC).

Depending on its design, a forced base acre update could potentially help resolve budgetary constraints by removing base acres that are no longer in production of a covered commodity. A forced base update would likely place some farmers, and, potentially even entire regions, at an advantage over others, depending on recent history of planted acres and the formula used to calculate the new base acre structure. If a farmer has been planting the same crop and acreage as their current base acres, there will be no change in the amount of base acres resulting from the update. However, if a given producer has been planting crops not closely aligned with existing base acres or is not planting a covered commodity on the land any longer, a mandatory base acre update would elicit significant change. The impacts on base acres by county, state, and region for each covered commodity should be considered before an update is enacted; without analysis, the overall shifts and the magnitudes of those shifts are unknown.

#### Background

The current levels of base acres were largely established in the mid 1980's. The Farm Security and Rural Investment Act of 2002 (2002 Farm Bill), and the Agricultural Act of 2014 (2014 Farm Bill) both allowed farmers the option to update their base acres from those that were established in the 1980s to the average of the most recent years' plantings. In both 2002 and 2014, the base update was optional, so only those farmers who anticipated a benefit in shifting their base acre complement elected to exercise their update. Farmers generally chose to update base acres when the projected payments would increase relative to the payments under the old base acres. As a result, the amount of acreage in certain commodities has changed slightly over time following the change in national planted acres. This can be seen in the way corn and soybean base acres have increased nationwide, while wheat and small grains have decreased when chances to update were granted. Although the covered crop mixes have shifted, at no time has there been an opportunity to increase the total number of covered acres on a given farm number. Potential market distorting effects of the optional updates in tandem with the notion that payments may potentially be collected on base acres that are no longer planted to a covered commodity have motivated support for a forced base acre update.

#### Methodology

In 2013, Smith and Goodwin did extensive research in this area; however, they utilized United States Department of Agriculture (USDA) data for existing county base acres along with National Agricultural Statistic Service (NASS) county *harvested acres*. In order to account for the abandoned acreage that is planted but not able to be harvested every year, this study instead utilizes NASS *planted acre* data. It is also worth noting that Congress has assigned base acreage in past farm bills based on the acres planted. Individual producer base acre and planted acre data

would be even more desirable, but it is not publicly available information, thus county level specificity is the best available alternative. The county-level planted acres for the years 2012 - 2016 are assumed to form the basis for a forced base acre update. For each county, the planted acres in those years are averaged, dropping the years for which planted acres were unattainable from NASS. The above average was then compared to the current county base acres to arrive at change in base acreage:

$$\left(\sum_{t=2012}^{2016} Planted Acres_t\right) - (FSA County Base Acres) = Change in Base Acres$$

County-land changes in base acres are shown in Figures 1-10 for ten major covered commodities. This approach characterizes both *increases* and *decreases* in overall base acres in a county. Counties with at least one year of NASS planted acre data and/or FSA base acres in one of the commodities examined within the given time period are included in the calculations for that respective commodity. Counties without the required data appear as gray on the maps in Figures 1-10. This is not uncommon because many crops are regional and are not planted in every county or state. Shades of red represent a decrease in base acres and green represent an increase in base acres. The intensity of the shade of either red or green, represents the magnitude of the change in base acres, with the darkest shades reflecting a change of 265,000 acres, and pure white reflecting no change at all.

The county level changes in base acres also are aggregated and presented in Table 2 to reveal state and regional level impacts. The regions are drawn based on states falling within generally similar production areas. This aggregate net change in base acre information is valuable to those interested in the state or region as a whole as opposed to a county-level or individual commodity organization. Figure 11 illustrates the states included in each region.

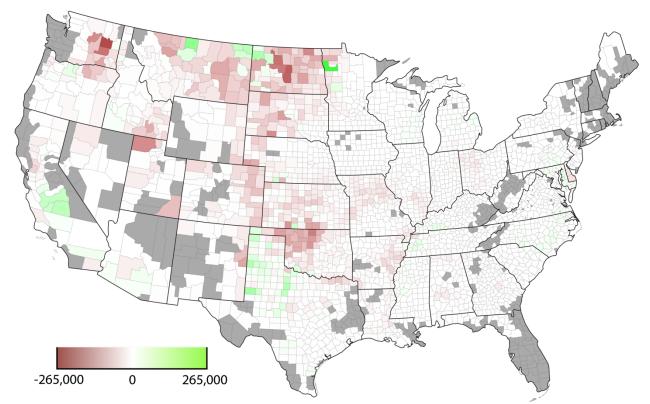


Figure 1. The Effects of a Mandatory Base Acre Update for US Counties with Wheat Acreage.

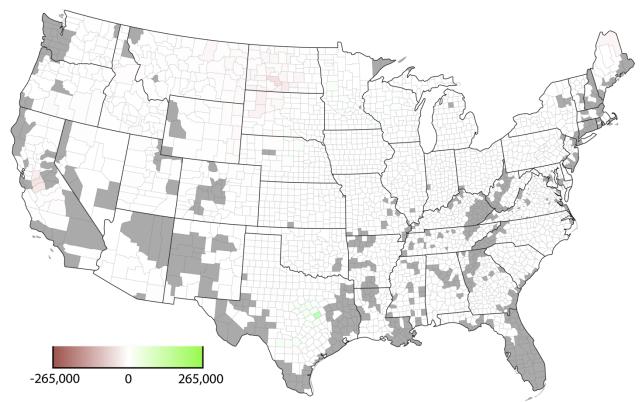


Figure 2. The Effects of a Mandatory Base Acre Update for US Counties with Oats Acreage.

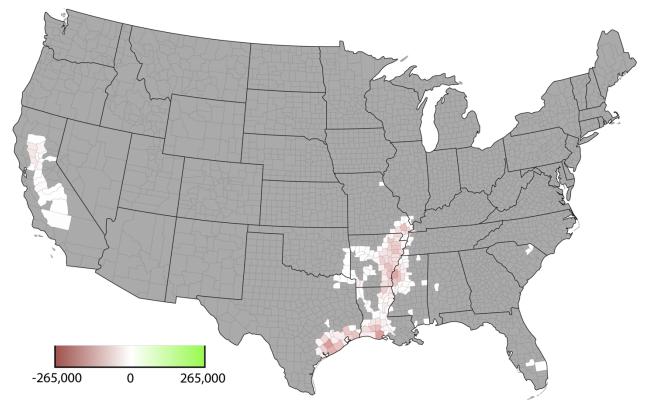


Figure 3. The Effects of a Mandatory Base Acre Update for US Counties with Rice Acreage.

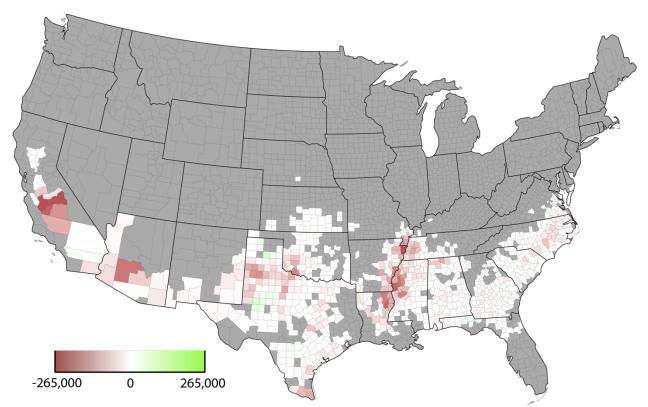


Figure 4. The Effects of a Mandatory Base Acre Update for US Counties with Cotton Acreage.

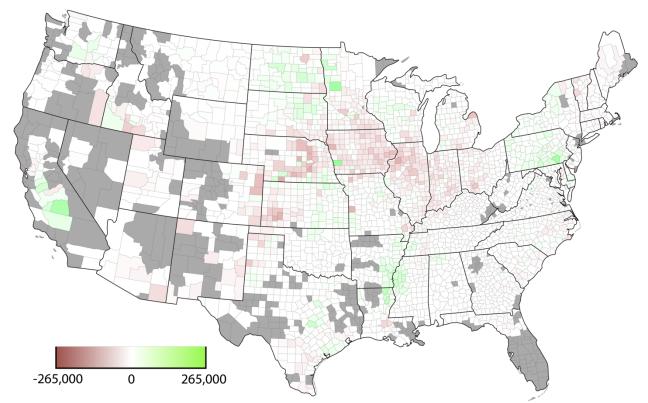


Figure 5. The Effects of a Mandatory Base Acre Update for US Counties with Corn Acreage.

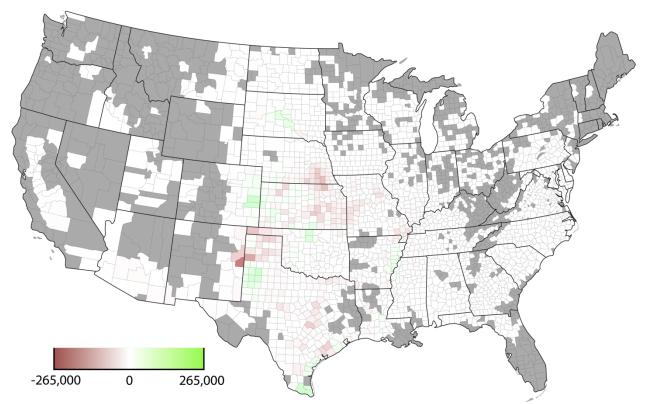


Figure 6. The Effects of a Mandatory Base Acre Update for US Counties with Grain Sorghum Acreage.

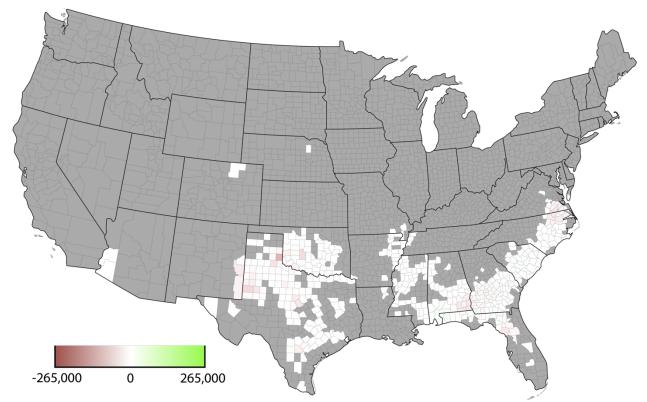


Figure 7. The Effects of a Mandatory Base Acre Update for US Counties with Peanuts Acreage.

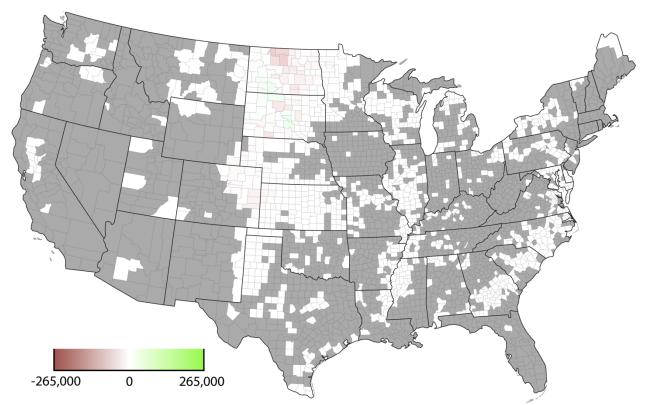


Figure 8. The Effects of a Mandatory Base Acre Update for US Counties with Sunflower Acreage.

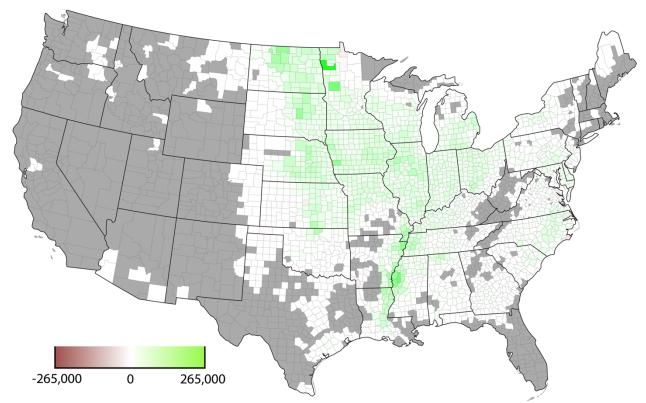


Figure 9. The Effects of a Mandatory Base Acre Update for US Counties with Soybeans Acreage.

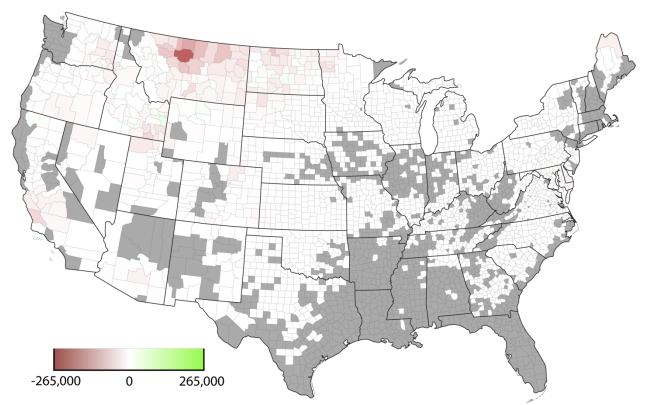


Figure 10. The Effects of a Mandatory Base Acre Update for US Counties with Barley Acreage.

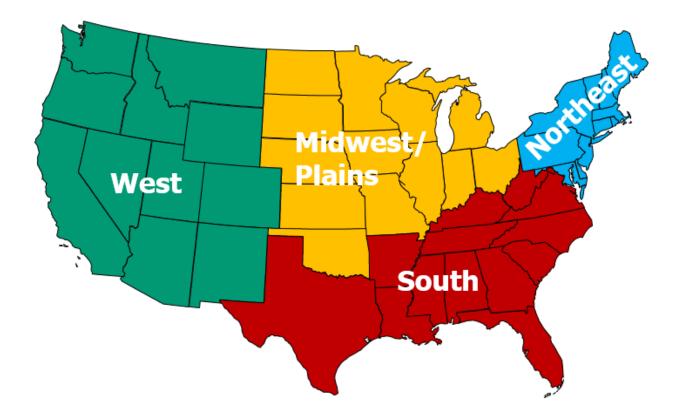


Figure 11. Map of States Categorized into Regions for Mandatory Base Acre Analysis. Results

Examination of the data reveals that select commodities would have noteworthy impacts on their respective base acres as a result of a mandatory base update. Wheat has large decreases in the Western Region and throughout the western portion of the Midwest/Plains Region. Rice has large decreases in the Mississippi River Basin, and along the gulf coast. The mandatory update results in large decreases of cotton base in the Mississippi River Basin, in the Texas Panhandle, and in the Southwest. Corn would experience large increases and decreases depending on the area, but there is an overall net loss. Soybeans are the only commodity that would enjoy large increases in base acres, especially in the Mississippi River Basin, and the Midwest/Plains region. Table 1 indicates total base acres across major covered commodities by state, and Table 2 reports total changes in base acres across these crops by state. States that would experience an increase of more than 450,000 acres in total base acres are: Pennsylvania, Kentucky, North Carolina, Tennessee, Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Nebraska, Ohio, and Wisconsin. States that would experience a decrease of 450,000 acres or more in total base acres would include: Arkansas, Oklahoma, Texas, Kansas, North Dakota, Colorado, Idaho, Montana, New Mexico, and Washington.

Under the current scenario, the Northeast Region has a small amount of base acres relative to the other three regions, but the region would experience a considerable increase (approximately 2 million base acres) as a result of a mandatory base update. This increase in base acres results almost entirely from increases in Pennsylvania and New York as seen in Table 2. Aforementioned increases in both states were mostly in corn and soybeans. The Northeast Region would also see several states losing all of their base acres, a key consideration requiring further examination before implementation of this type of update. The lack of planted acre data in these states is likely due to NASS policies ensuring the avoidance of disclosure of individual operations.

The Southern Region included roughly 47 million base according to the 2016 Farm Service Agency records. This number would decrease with this implementation. The primary states fueling this decline include Texas, Arkansas, and Louisiana. However, not all of the states in the southern region would experience a decrease. Kentucky, North Carolina, Tennessee, and Virginia would all see a considerable increase in base acres.

#### Table 1. Current Base Acres by State, Commodity, and Region.

Wheat         Dats         Nice         Cotton         Sorghum         Pearusts         Singham         Sorghum         Sorghum         Pearusts         Sorghum <t< th=""><th>State Total</th></t<>	State Total
when         4.86,118         0.2,019         0.1         0.60,029         0.3,019         0.00         0.63,029         0.3,019         0.06,029         0.3,019         0.06,029         0.3,019         0.04,039         0.3,019         0.04,039         0.3,019         0.04,039         0.04,039         0.04,039         0.04,039         0.05,041         0.03,039         0.05,041         0.03,039         0.05,041         0.03,039         0.05,041         0.03,039	21,090,6
wise         10.9.75         10.9.83         -         -         15.2542-63         3.7.27         6.51         7.6.57         2.0.47.55         4.0.7.27           tickligen         4.0.9.79         4.3.499         -         -         2.6.4332         355         -         7.8.57         359         1.0.59.403         1.4.59.403           tickligen         4.0.9.714         6.3.32         2.81.75         4.74.74         6.0.9.12.013         2.11         6.2.02         3.0.39.643         1.2.2.001           tickrash         1.9.71.403         7.5.50         4.74.74         6.0.2.3.203         2.4.31         -         8.0.2.02         3.3.248         3.3.248         3.3.248         3.3.243	10,728,3
nine         10.046.991         64.283         -         19.088         4.444.391         2.179.453         -         76.677         2.687.333         40.797           Itelescent         1.077.748         160.303         -         -         2.642.323         650         -         40.108         5.771.678         21.00.41           Itelescent         1.242.393         10.009         231.322         41.744         8.01.308         2.241         -         40.108         5.771.678         1.712.000           Itelescent         5.335.644         200.801         -         -         8.030.308         2.2411         -         40.108         3.535.415         21.20.00         445.355         1.655.357         1.655.357         1.655.357         1.655.357         1.655.357         1.655.357         1.655.357         1.655.357         1.655.357         1.655.357         1.655.357         1.655.357         1.655.357         1.655.357         1.655.37         1.655.37         1.655.37         1.655.37         1.655.37         1.655.37         1.655.37         1.655.37         1.655.37         1.655.37         1.655.37         1.655.37         1.655.37         1.655.37         1.655.37         1.655.37         1.655.37         1.655.37         1.655.37         1.6	22,122,8
induga         induga <thinduga< th=""> <thinduga< <="" td=""><td>21,039,1</td></thinduga<></thinduga<>	21,039,1
inne_esta inne_esta	4,223,0
insouri 1, 1, 2, 4, 3, 93 terb hale 1, 2, 7, 5, 5, 6, 7, 5, 6, 7, 5, 6, 7, 7, 7, 6, 8, 2, 2, 3, 3, 3, 6, 9, 9, 5, 11 terb hale 9, 1, 2, 6, 4, 30, 6, 6, 7, 7, 7, 4, 5, 8, 10, 2, 2, 3, 3, 3, 6, 0, 9, 9, 5, 11 terb hale 2, 3, 2, 2, 4, 3, 9, 1, 2, 7, 4, 5, 8, 1, 2, 2, 3, 3, 3, 6, 0, 1, -, 2, 5, 0, 3, 4, 3, 4, 0, 4, 15, 5, 2, 10, 5, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	16,510,4
chronis         1.371,0183         76,004         .         8         1.042,028         521,018         38,078         3.033,041         11.289           tablem         6,006,812         4.399         2,740         583,018         273,123         383,960         99,111         1,04         135,852         155,852           table         2,372,138         2,40,030         2         1,21,000         1,21,000         1,21,000         1,21,000         1,21,000         1,21,000         1,21,000         1,21,000         1,21,000         1,21,000         1,21,000         1,21,000         1,21,000         1,21,000         1,21,000         1,21,000         1,21,000         1,21,000         1,000,850         1,21,200         1,000,850	9,511,7
Optimized 19, 152, 664         300, 861         -         -         0.00, 396         2, 431         -         00, 108         4, 003, 670         1, 122, 000           No         62, 32, 324         21, 107         -         -         4, 075, 033         60, 60         -         250         3, 14, 38, 60         1, 143, 38           No         62, 32, 324         24, 312         -         -         5, 75, 64         78, 38         9, 139           Incensin         13, 033         195, 146         -         1, 932, 749         8, 97, 56         1, 46, 88         4, 003, 644         32, 013           spine forul         36, 38, 15, 17         1, 28, 488         266, 89         1, 03, 257         8, 97, 56         1, 46, 88         4, 53, 50, 10         1, 51, 57, 70           spine forul         21         -         -         19, 59         6, 61, 23, 38         4, 53, 50, 10         1, 51, 57, 70           spine forul         22         21         -         -         19, 59         -         -         -         6, 4         1, 56, 66         1, 53, 56         1, 51, 57, 70           spine forul         24         1, 440         -         -         1, 52, 56         33, 66, 96         3, 38, 67 <td< td=""><td>16,041,9</td></td<>	16,041,9
biabom         6.666.812         4.9.91         2.7.40         583.018         2.73.22         3.93.969         98.11         1.0.34         155.852         10.53           biho         2.33.71.30         240.312         -         -         5.755.666         178.368         -         493.253         3.765.818         93.139           spinnel         133.053         195.166         -         -         3.075.818         93.139           spinnel         133.053         195.166         -         -         3.075.818         93.139           spinnel         36.81.517         1.299.498         2.64.99         1.039.859         81.612.304         4.822.279         88.756         1.443.968         45.350.130         1.551.570           ortheast         22         F7         -         1.59.397         1.133         -         54         11.666         18.304           spinnel         851         1.4.09         -         1.29.397         1.130         -         2.5         3.305.93         3.8.87           spinnel         1.010         42.0216         5.707         -         2         2         2         2         2         2         2         2         2         2 <td>18,386,0</td>	18,386,0
No.         823.324         21,07         .         .         .         4.075.035         60.1         .         250.3         3.74.8,80         1.43.8           otto Badra         3.83.8,63.7         1.299.498         2.04.312         .         .	8,111,2
Durk Dakota         2.897,130         240,312         -         -         5,759,466         175,368         -         432,253         3,765,318         9,1139           gennal Total         35,856,157         1,299,498         284,899         1,039,859         81,812,936         4,822,279         89,756         1,465,968         45,350,130         1,551,570           ortheat Race Acre Dats         -         -         135,597         -         5         5         80,765         1,863         80,760         80,760         80,760         80,760         80,760         80,760         80,760         80,760         80,760         80,760         5         9,113,94         1,136,16         1,80,4	8,065,6
Visconal         133.053         195.146         -         -         3.529.749         480         -         1.48.08         402.084         3.2,010           opional Total         36.836.157         1.299.489         1.039.859         81.612.386         4.822.279         88.756         1.483.08         45.350.130         1.551.570           ornecticut         Vibat         Ods         Rice         Cotro         Corn         Sorghum         Peanuts         Sonflower         Soybeans         Barley           onnecticut         12.2         2.1         Cotro         Corn         1.93.999         -         -         -         5.906eans         Barley           onnecticut         110.355         1.400         -         10.042.215         5.00         -         2.45         3.02.33         5.5           waverney         16.850         86.55         -         -         7.07.02         81.7         -         2.25         3.02.33         5.5           waverney         16.850         88.115         41.19.97         -         -         9.040.390         91         -         2.21         107.508         6.671           waverney         16.850         89.05         -         -<	13,425,4
agonal Total         36,836,157         1,299,498         284,859         1,039,859         81,612,336         4,822,279         89,756         1,463,968         45,350,130         1,551,570           carchead Base Ace Data           Sorghum         Peanuls         Sonflower         Sorghum         Sorghum         Sonflower         Sorghum         Sonflower         Sorghum           Advector Base           Sorghum         Peanuls         Sonflower	

#### Table 2. Changes in Base Acres by State, Commodity, and Region.

Illinois Indiana	Wheat	Oats	Rice	Cotton	Corn	Sorghum	Peanuts	Sunflower	Soybeans	Barley	State Total
ndiana	(209,273)	3,637	(835)	-	(1,071,120)	(54,020)	-	(1,135)	2,568,764	(1,222)	1,234,793
	(126,188)	(6,214)	(855)		(703,628)	(5,135)	-	(1,100) (65)	1,729,338	(800)	887,30
owa	(50,875)	18,264			(1,542,004)	(3,652)		(131)	2,939,243	(2,014)	1,358,83
ansas	(1,144,181)	(43,078)		(2,063)	(54,129)	(431,720)	-	(56,207)	1,187,000	(40,787)	(585,16
lichigan	78,435	12,306		(_,===)	(105,069)	(365)	-	(389)	940,473	(14,589)	910,80
linnesota	(382,756)	56,751		-	(227,845)	(390)	-	(19,592)	1,426,039	(128,024)	724,18
lissouri	(632,983)	(19,050)	(108,325)	(177,996)	(83,178)	(365,656)	(211)	(852)	1,911,652	(4,713)	518,68
lebraska	(436,928)	(12,554)	()	(8)	(720,073)	(382,593)	(34)	(25,778)	2,054,569	(18,289)	458,31
North Dakota	(1,727,012)	(163,844)		- (0)	306,594	(2,431)	(54)	(215,825)	1,476,561	(302,690)	(628,64
Oklahoma	(1,325,037)	(43,991)	(2,740)	(352,768)	78,555	13,310	(80,856)	(1,034)	242,495	(10,535)	(1,482,60
Dhio	(251,466)	8,223	(2,740)	(332,700)	(354,685)	(601)	(00,050)	(1,054) (250)	1,533,552	(1,433)	933,34
South Dakota	(736,220)	(23,679)			57,649	70,262	_	(20,783)	1,170,224	(93,139)	424,31
Wisconsin	133.113	49.281	_		170,275	(480)	_	(1,408)	973,713	(32,010)	1,292,48
Regional Total	(6,811,371)	(163,948)	(111,899)	(532,834)	(4,248,658)	(1,163,470)	(81,101)	(343,448)	20,153,622	(650,244)	6,046,65
Northeast Change in Base		0-1-1	Dian	C	C	Countries	Descute	Cueffermen	Caultanaa	Derley	Chata Tatal
Connecticut	Wheat (22)	Oats (21)	Rice	Cotton	Corn (19,599)	Sorghum	Peanuts	Sunflower	Soybeans (16)	Barley (4)	State Total (19,66
			-	-		-	-	-			
Delaware	(45,192)	(87)	-	-	16,621	(1,183)	-	(54)	53,354	(18,304)	5,15
Aaine Aandaad	(851)	(14,149)	-	-	(29,252)	(6)	-	(4)	(1,365)	(16,077)	(61,70
Maryland	158,124	(1,400)	-	(110)	15,042	(5,370)	-	(255)	168,896	24,200	359,12
Massachusetts	(16)	(79)	-	-	(15,213)	(10)	-	-	(23)	(5)	(15,34
lew Hampshire		(20)	-	-	(13,108)	(2)	-	-	(2)	(28)	(13,16
lew Jersey	10,667	(865)	-	-	13,036	(817)	-	(24)	47,786	(2,440)	67,34
New York	22,005	24,716	-	-	182,480	(91)	-	(251)	196,894	(6,671)	419,08
Pennsylvania	105,654	49,503	-	-	748,019	(1,533)	-	(271)	369,159	38,172	1,308,70
Rhode Island	-	(1)	-	-	(975)	-	-	-	-	-	(97
/ermont	(544)	(476)	-		(79,844)	(56)	-	(24)	(997)	(439)	(82,38
Regional Total	249,824	57,121	-	(110)	817,208	(9,069)	-	(882)	833,685	18,403	1,966,18
Western Change in Base Alaska	Wheat (61)	Oats (1,137)	Rice	Cotton	Corn	Sorghum	Peanuts	Sunflower	Soybeans	Barley (12,446)	State Total (13,64
Arizona	22,012	(2,969)	-	(210,877)	(38,570)	(9,257)	(428)	(2)	(42)	(12,440) (14,239)	(254,37
California	92,698	(69,905)	(66,826)	(496,546)	210,808	(8,298)	(428)	(8,403)	(63)	(95,242)	(234,37
Colorado	(548,090)	(27,886)	(00,020)	(450,540)	(224,748)	128,917	(75)	(49,853)	(8,005)	(65,814)	(795,55
daho	(302,907)	(17,247)			(60,654)	(261)	(73)	(49,853) (85)	(8,003)	(93,516)	(474,68
Vontana	(657,227)	(65,241)			15,270	(905)		(5,392)	(2,198)	(844,787)	(1,560,48
violitalia		(2,346)		_	(1,884)	(116)	_	(3,352)	(2,150)	(7,842)	
Vevada						(110)					
	(26,554)			(57.015)	(00.125)	(159 552)	(23 374)	(214)	(127)		
New Mexico	(171,550)	(5,630)	-	(57,015)	(90,125)	(159,552)	(23,374)	(214)	(127)	(5,455)	(513,04
New Mexico Dregon	(171,550) (126,225)	(5,630) (6,839)	-	(57,015)	(59,140)	(164)	(23,374)	(300)	(114)	(5,455) (40,057)	(513,04 (232,83
Nevada New Mexico Dregon Utah Washington	(171,550) (126,225) (215,110)	(5,630) (6,839) (10,973)	-	(57,015) - -	(59,140) (55,774)	(164) (936)	(23,374)	(300) (87)	(114) (32)	(5,455) (40,057) (36,556)	(513,04 (232,83 (319,46
New Mexico Dregon Utah Washington	(171,550) (126,225) (215,110) (602,660)	(5,630) (6,839) (10,973) (5,272)	- - -	(57,015) - - -	(59,140) (55,774) 36,137	(164) (936) (36)	(23,374) - - -	(300) (87) (609)	(114) (32) (628)	(5,455) (40,057) (36,556) (89,406)	(513,04 (232,83 (319,46 (662,47
New Mexico Dregon	(171,550) (126,225) (215,110)	(5,630) (6,839) (10,973)	- - - - (66,826)	(57,015) - - - - - (764,439)	(59,140) (55,774)	(164) (936)	(23,374)	(300) (87)	(114) (32)	(5,455) (40,057) (36,556)	(513,04 (232,83 (319,46 (662,47 (185,23
New Mexico Dregon Utah Washington Wyoming Regional Total	(171,550) (126,225) (215,110) (602,660) (124,772) (2,660,446)	(5,630) (6,839) (10,973) (5,272) (28,068)	- - - - - (66,826)		(59,140) (55,774) 36,137 (12,245)	(164) (936) (36) (373)	-	(300) (87) (609) (6,246)	(114) (32) (628) (4)	(5,455) (40,057) (36,556) (89,406) (13,526)	(513,04 (232,83 (319,46 (662,47 (185,23
Vew Mexico Dregon Jtah Washington Wyoming Regional Total	(171,550) (126,225) (215,110) (602,660) (124,772) (2,660,446)	(5,630) (6,839) (10,973) (5,272) (28,068)	- - - - (66,826) Rice		(59,140) (55,774) 36,137 (12,245)	(164) (936) (36) (373) (50,981)	-	(300) (87) (609) (6,246)	(114) (32) (628) (4) (11,226)	(5,455) (40,057) (36,556) (89,406) (13,526)	(513,04 (232,83 (319,46 (662,47 (185,23
Vew Mexico Dregon Jtah Washington Wyoming Regional Total Gouthern Change in Base	(171,550) (126,225) (215,110) (602,660) (124,772) (2,660,446) e Acres Wheat	(5,630) (6,839) (10,973) (5,272) (28,068) (243,511) Oats	Rice	- - - (764,439) Cotton	(59,140) (55,774) 36,137 (12,245) (280,924) Corn	(164) (936) (36) (373) (50,981) Sorghum	- - - (23,876) Peanuts	(300) (87) (609) (6,246) (71,190) Sunflower	(114) (32) (628) (4) (11,226) Soybeans	(5,455) (40,057) (36,556) (89,406) (13,526) (1,318,886) Barley	(513,04 (232,83 (319,46 (662,47 (185,23 (5,492,30 State Total
Vew Mexico Dregon Jtah Wyoming Regional Total Gouthern Change in Base	(171,550) (126,225) (215,110) (602,660) (124,772) (2,660,446) e Acres Wheat (134,841)	(5,630) (6,839) (10,973) (5,272) (28,068) (243,511) Oats (12,216)	Rice (14)	- - - (764,439) Cotton (283,254)	(59,140) (55,774) 36,137 (12,245) (280,924) Corn 106,016	(164) (936) (36) (373) (50,981) Sorghum (20,741)	- - - (23,876) Peanuts (77,293)	(300) (87) (609) (6,246) (71,190) Sunflower (161)	(114) (32) (628) (4) (11,226) Soybeans 295,322	(5,455) (40,057) (36,556) (89,406) (13,526) (1,318,886) Barley (357)	(127,53
lew Mexico Dregon Jtah Washington Wyoming Legional Total Lothern Change in Base Nabama Vitansas	(171,550) (126,225) (215,110) (602,660) (124,772) (2,660,446) e Acres Wheat (134,841) (389,551)	(5,630) (6,839) (10,973) (5,272) (28,068) (243,511) Oats (12,216) (10,687)	Rice (14) (716,698)	- - - - (764,439) <b>Cotton</b> (283,254) (787,944)	(59,140) (55,774) 36,137 (12,245) (280,924) Corn 106,016 403,926	(164) (936) (36) (373) (50,981) Sorghum (20,741) 26,012	(23,876) Peanuts (77,293) (6,163)	(300) (87) (609) (6,246) (71,190) Sunflower (161) (388)	(114) (32) (628) (4) (11,226) Soybeans 295,322 849,248	(5,455) (40,057) (36,556) (89,406) (13,526) (1,318,886) Barley	(513,04 (232,83 (319,46 (662,47 (185,23 (5,492,30 <b>State Total</b> (127,53 (632,27
lew Mexico Dregon Jtah Washington Wyoming tegional Total iouthern Change in Base Jabama Arkansas Jorida	(171,550) (126,225) (215,110) (602,660) (124,772) (2,660,446) * Acres Wheat (134,841) (389,551) (10,713)	(5,630) (6,839) (10,973) (5,272) (28,068) (243,511) Oats (12,216) (10,687) (5,004)	Rice (14)	- - - (764,439) (764,439) (783,254) (787,944) 7,521	(59,140) (55,774) 36,137 (12,245) (280,924) <b>Corn</b> 106,016 403,926 (39,011)	(164) (936) (36) (373) (50,981) Sorghum (20,741) 26,012 (3,278)	- - - (23,876) Peanuts (77,293) (6,163) (230)	(300) (87) (609) (6,246) (71,190) Sunflower (161) (388) (55)	(114) (32) (628) (4) (11,226) Soybeans 295,322 849,248 (7,935)	(5,455) (40,057) (36,556) (13,526) (1,318,886) Barley (357) (31) -	(513,04 (232,83 (319,46 (662,47 (185,23 (5,492,30) State Total (127,53 (632,27 (59,27
lew Mexico Dregon Itah Washington Wyoming Regional Total Southern Change in Base Nabama Virkansa Siorida Seorgia	(171,550) (126,225) (215,10) (602,660) (124,772) (2,660,446) * Acres Wheat (134,841) (389,551) (10,773) (19,606)	(5,630) (6,839) (10,973) (5,272) (28,068) (243,511) Oats (12,216) (10,687) (5,004) (27,126)	Rice (14) (716,698) (568)	(764,439) (764,439) (283,254) (787,944) (7,521 (165,348)	(59,140) (55,774) 36,137 (12,245) (280,924) <b>Corn</b> 106,016 403,926 (39,011) 55,987	(164) (336) (377) (50,981) Sorghum (20,741) 26,012 (3,278) (35,986)	(23,876) Peanuts (77,293) (6,163)	(300) (87) (609) (6,246) (71,190) Sunflower (161) (388) (55) (2,041)	(114) (32) (628) (4) (11,226) Soybeans 295,322 849,248 (7,935) 130,835	(5,455) (40,057) (36,556) (89,406) (13,526) (1,318,886) Barley (357) (31) - - (3,150)	(513,04 (232,83 (319,46 (662,47 (185,23 (5,492,30 <b>State Total</b> (127,53 (632,27 (59,27 (169,49
lew Mexico rregon tah Vashington vyoming egional Total outhern Change in Base labama Isbama I	(171,550) (126,225) (215,110) (602,660) (124,772) (2,660,446) <b>:</b> Acres Wheat (134,841) (389,551) (10,713) (19,606) 144,757	(5,630) (6,839) (10,973) (5,272) (28,068) (243,511) (10,687) (10,687) (5,004) (27,126) (2,883)	Rice (14) (716,698)	(764,439) Cotton (283,254) (787,944) 7,521 (165,348) (85)	(59,140) (55,774) 36,137 (12,245) (280,924) <b>Corn</b> 106,016 403,926 (39,011) 55,987 (106,673)	(164) (336) (373) (50,981) <b>Sorghum</b> (20,741) 26,012 (3,278) (35,986) (14,446)	- (23,876) Peanuts (77,293) (6,163) (230) (103,056)	(300) (87) (609) (6,246) (71,190) (71,190) (71,190) (161) (388) (55) (2,041) (58)	(114) (32) (628) (4) (11,226) Soybeans 295,322 849,248 (7,935) 130,835 840,130	(5,455) (40,057) (36,556) (89,406) (13,526) (1,318,886) (1,318,886) (357) (31) - (3,150) (6,644)	(513,04 (232,83 (319,46 (662,47 (185,22 (5,492,30 <b>State Total</b> (127,53 (632,27 (59,27 (169,44 853,75
tew Mexico Dregon Jtah Washington Wyoming tegional Total southern Change in Base Journe Change in Base Jou	(171,550) (126,225) (215,110) (602,660) (124,772) (2,660,446) excres wheat (134,841) (389,551) (10,713) (19,606) (144,757)	(5,630) (6,839) (10,973) (5,272) (28,068) (243,511) (12,216) (10,687) (5,004) (27,126) (2,883) (5,746)	Rice (14) (716,698) (568) - (146) (397,290)	(764,439) Cotton (283,254) (787,944) 7,521 (165,348) (813,781)	(59,140) (55,774) 36,137 (12,245) (280,924) (280,924) (280,924) (280,924) (39,011) 55,987 (106,673) 209,179	(164) (936) (36) (373) (50,981) <b>Sorghum</b> (20,741) 26,012 (3,278) (35,986) (14,446) (13,870)	- - - (23,876) Peanuts (77,293) (6,163) (230)	(300) (87) (609) (6,246) (71,190) (161) (388) (55) (2,041) (58) (205)	(114) (32) (628) (4) (11,226) Soybeans 295,322 849,248 (7,935) 130,835 840,130 777,184	(5,455) (40,057) (36,556) (89,406) (13,526) (1,318,886) (1,318,886) (1,318,886) (3,57) (31) - - (3,150) (6,841) (3)	(513,04 (232,83) (319,46 (662,47 (185,23 (5,492,30 (5,492,30 (632,27 (59,27 (169,48 853,75 (392,01
lew Mexico pregon tah Vashington Vyoming legional Total outhern Change in Base outhern Change in Base outhern Change in Base outhana isoraja ieorgia ieorgia ieorgia ieorgia isoraja isosisiana	(171,550) (126,225) (215,110) (602,660) (124,772) (2,660,446) (124,874) (134,841) (189,551) (10,713) (19,606) 144,757 (146,475) 31,306	(5,630) (6,839) (10,973) (5,272) (28,068) (243,511) (243,511) (10,687) (10,687) (5,004) (27,126) (2,883) (5,746) (2,903)	Rice (14) (716,698) (568) - (146)	(764,439) Cotton (283,254) (787,944) 7,521 (165,348) (85) (813,781) (1,194,151)	(59,140) (55,774) 36,137 (12,245) (280,924) Corn 106,016 403,926 (39,011) 55,987 (106,673) 209,179 326,612	(164) (336) (36) (373) (50,981) Sorghum (20,741) 26,012 (3,278) (35,986) (14,446) (13,870) 18,678	- - (23,876) Peanuts (77,293) (6,163) (230) (103,056) - - (1,013) 7,749	(300) (87) (609) (6,246) (71,190) Sunflower (161) (388) (55) (2,041) (55) (2,041) (55) (205) (844)	(114) (32) (628) (4) (11,226) Soybeans 295,322 849,248 (7,935) 130,835 840,130 777,184 1,162,235	(5,455) (40,057) (36,556) (89,406) (1,312,626) (1,312,8,886) Barley (357) (31) - - (3,150) (6,841) (33)	(513,0- (232,8: (319,44) (662,4: (185,2: (5,492,30) (127,5: (632,2: (159,2: (169,44) 853,7: (392,0: (392,0: 90,14)
lew Mexico rregon tah Vashington Vyoming egional Total outhern Change in Base labama rkansas lorida ieorgia entucky ouisiana Alississippi lorith Carolina	(171,550) (126,225) (215,110) (602,660) (124,772) (2,660,446) <b>:</b> Acres Wheat (134,841) (189,551) (10,713) (19,606) 144,757 (146,475) 31,306 259,818	(5,630) (6,839) (10,973) (5,272) (28,068) (243,511) (10,687) (10,687) (5,004) (27,126) (2,883) (5,746) (2,903) (15,098)	Rice (14) (716,698) (568) - (146) (397,290) (258,501)	(764,439) Cotton (283,254) (787,944) 7,521 (165,348) (85) (813,781) (1,194,151) (403,121)	(59,140) (55,774) 36,137 (12,245) (280,924) Corn 106,016 403,926 (39,011) 55,987 (106,673) 209,179 326,612 (14,222)	(164) (936) (373) (50,981) Sorghum (20,741) (20,741) (20,741) (3,278) (35,986) (14,446) (13,870) 18,678 (16,183)	- (23,876) (6,163) (6,163) (230) (103,056) - (1,013) 7,749 (69,012)	(300) (87) (609) (6,246) (71,190) (71,190) (388) (55) (2,041) (580) (205) (844) (580)	(114) (32) (628) (4) (11,226) Soybeans 295,322 849,248 (7,935) 130,835 840,130 777,184 1,162,235 769,219	(5,455) (40,057) (36,556) (89,406) (13,526) (1,318,886) (3,57) (31) - (3,150) (6,641) (33) (33) (16,636)	(513,0) (232,8) (319,4) (662,4' (185,2) (5,492,3) (127,5) (632,2) (169,4' (169,4' (169,4') (169,4') (392,0) 90,1) (392,0) 90,1) (494,1)
lew Mexico Dregon Tsh Vashington Wyoming tegional Total iouthern Change in Base iouthern Change in Base Valabama vitansas ilorida Beorgia Gentucky ouisiana Missispipi North Carolina outh Carolina	(171,500) (126,225) (215,110) (602,660) (124,772) (2,660,446) * Acres Wheat (134,841) (389,551) (10,713) (19,606) 144,757 (146,475) 31,306 259,818 20,910	(5,630) (6,839) (10,973) (5,272) (28,068) (243,511) (10,687) (12,216) (10,687) (5,004) (27,126) (2,883) (5,746) (2,903) (15,098) (15,913)	Rice (14) (716,698) (568) - (146) (397,290) (258,501) - (556)	- - (764,439) (783,254) (787,944) (75,521 (165,348) (851) (813,781) (1,194,151) (403,221) (82,397)	(59,140) (55,774) 36,137 (12,245) (280,924) Corn 106,016 403,926 (39,011) 55,987 (106,673) 209,179 326,612 (14,222) (14,222) (20,498)	(164) (36) (36) (373) (50,981) <b>Sorghum</b> (20,741) 26,012 (3,278) (35,986) (14,446) (13,870) 18,678 (16,183) (10,240)	- (23,876) (77,293) (6,163) (230) (103,056) - (1,013) 7,749 (69,012) 26,577	(300) (87) (609) (6,246) (71,190) (161) (388) (55) (2,041) (58) (205) (844) (580) (473)	(114) (32) (628) (628) (4) (11,226) Soybeans 295,322 849,248 (7,935) 130,835 840,130 777,184 1,162,235 769,219 142,163	(5,455) (40,057) (36,556) (89,406) (13,526) (1,318,886) (1,318,886) (3,577) (31) (3,577) (6,841) (33) (16,636) (4,903)	(513,0) (232,8) (319,4) (662,4) (5,492,3) (5,492,3) (5,492,3) (169,4) (127,5) (632,2) (169,4) (833,7) (392,0) (169,4) (392,0) (169,4) (392,0) (19,4) (392,0) (19,4) (19,5) (19,4)
lew Mexico Dregon Jtah Washington Wyoming Legional Total Louthern Change in Base Nabama Vrkansas Jorida Seorgia Lentucky Jouisiana Mississippi Jorth Carolina Jouth Carolina Lennesse	(171,550) (126,225) (215,110) (602,660) (124,772) (2,660,446) <b>et Acres</b> <b>Wheat</b> (134,841) (1389,551) (10,713) (19,606) 144,757 (146,475) 31,306 259,818 20,910 104,584	(5,630) (6,839) (10,973) (5,272) (28,068) (243,511) (10,687) (5,004) (27,126) (2,883) (5,746) (2,742) (2,883) (5,746) (2,903) (15,098) (13,913) (2,516)	Rice (14) (716,698) (568) - (146) (397,290) (258,501) - (55) (2,544)	(764,439) <b>Cotton</b> (283,254) (787,944) (7,521 (165,348) (85) (813,781) (1,194,151) (403,121) (82,397) (452,148)	(59,140) (55,774) 36,137 (12,245) (280,924) Corn 106,016 403,926 (39,011) 55,987 (106,673) 209,179 326,612 (14,222) (20,498) 77,112	(164) (336) (36) (373) (50,981) Sorghum (20,741) 26,012 (3,278) (35,986) (14,446) (13,878) (10,20,780)	- (23,876) Peanuts (77,293) (6,163) (230) (103,056) - (1,013) 7,749 (69,012) 26,577 (1,125)	(300) (87) (609) (6,246) (71,190) (71,190) (848) (55) (2,041) (58) (205) (844) (580) (473) (113)	(114) (32) (628) (628) (4) (11,226) Soybeans 295,322 849,248 (7,935) 130,835 840,130 777,184 1,162,235 769,219 142,163 841,461	(5,455) (40,057) (36,556) (89,406) (13,526) (1,318,886) (357) (311) - (3,150) (6,841) (33) (16,636) (4,903) (1,813)	(513,0- (232,8: (319,44) (662,4: (185,2: (5,492,3( (127,5: (632,2: (169,4: (59,2: (169,4: (53,7: (169,4: (392,0: 90,1: (392,0: 90,1: (392,0:))))))))))))))))))))))))))))))))))))
New Mexico Oregon Jtah Woming Regional Total Southern Change in Base Alabama Alabama Alabama Alabama Southern Change in Base Alabama Gorida Georgia Georgia Gentucky Louisiana Wississippi Vorth Carolina South Carolina Fennessee Texas	(171,550) (126,225) (215,110) (602,660) (124,772) (2,660,446) <b>excres</b> <b>Wheat</b> (134,841) (189,551) (10,713) (19,606) 144,757 (146,475) 31,306 259,818 20,910 104,584 557,204	(5,630) (6,839) (10,973) (5,272) (28,068) (243,511) (10,687) (10,687) (5,004) (27,126) (2,883) (5,746) (2,903) (15,098) (13,913) (2,516) (2,516)	Rice (14) (716,698) (568) - (146) (397,290) (258,501) - (556)	(764,439) Cotton (283,254) (787,944) 7,521 (165,348) (85) (813,781) (1,194,151) (403,121) (82,397) (452,148) (1,414,906)	(59,140) (55,774) (36,137 (12,245) (280,924) (280,924) (280,924) (39,011) 55,987 (106,673) 209,179 326,612 (14,222) (20,498) 77,112 75,098	(164) (936) (36) (373) (50,981) (20,741) 26,012 (3,278) (35,986) (14,446) (13,870) 18,678 (16,183) (10,240) (37,580) (214,660)	- (23,876) Peanuts (77,293) (6,163) (230) (103,056) - (1,013) 7,749 (69,012) 26,577 (1,125) (279,951)	(300) (87) (609) (6,246) (71,190) (71,190) (388) (55) (2,041) (580) (205) (844) (580) (473) (113) 7,271	(114) (32) (628) (4) (11,226) Soybeans 295,322 849,248 (7,935) 130,835 840,130 777,184 1,162,235 769,219 142,163 841,461 9,495	(5,455) (40,057) (36,556) (89,406) (13,526) (1,318,886) (3,57) (31) - (3,150) (6,6,841) (33) (16,636) (4,903) (1,813) (25,560)	(513,0) (232,83 (319,44 (662,47 (185,22) (5,492,30) State Total (127,53 (632,27 (59,27) (169,42 (392,00) 90,14 (494,116 57,16 525,31 (1,573,35)
New Mexico Oregon Jtah Washington Myoming Eegional Total Southern Change in Base Nabama Arkansas Seorgia Gentucky Joirda Seorgia Gentucky Josith Carolina Tennessee Fexas Virginia	(171,550) (126,225) (215,110) (602,660) (124,772) (2,660,446) * Acres Wheat (134,841) (389,551) (10,713) (19,606) 144,757 (146,475) 31,306 259,818 20,910 104,584 \$57,204 46,608	(5,630) (6,839) (10,973) (5,272) (28,068) (243,511) <b>Oats</b> (12,216) (10,687) (5,004) (27,126) (2,883) (5,746) (2,903) (15,098) (13,913) (2,516) 154,077 (6,150)	Rice (14) (716,698) (568) - (146) (397,290) (258,501) - (55) (2,544)	(764,439) <b>Cotton</b> (283,254) (787,944) (7,521 (165,348) (85) (813,781) (1,194,151) (403,121) (82,397) (452,148)	(59,140) (55,774) 36,137 (12,245) (280,924) Corn 106,016 403,926 (39,011) 55,987 (106,673) 209,179 326,612 (14,222) (14,222) (20,498) 77,112 75,098 46,643	(164) (936) (36) (373) (50,981) <b>Sorghum</b> (20,741) 26,012 (3,278) (35,986) (14,446) (13,870) 18,678 (16,183) (10,240) (37,580) (214,660) (7,026)	- (23,876) Peanuts (77,293) (6,163) (230) (103,056) - (1,013) 7,749 (69,012) 26,577 (1,125)	(300) (87) (609) (6,246) (71,190) <b>Sunflower</b> (161) (388) (55) (2,041) (580) (205) (844) (580) (473) (113) 7,271 (159)	(114) (32) (628) (628) (4) (11,226) Soybeans 295,322 849,248 (7,935) 130,835 840,130 777,184 1,162,235 769,219 142,163 841,461 9,495 281,519	(5,455) (40,057) (36,556) (89,406) (1,3,526) (1,318,886) (1,318,886) (3,57) (31) (3,150) (6,841) (6,841) (3,31) (16,636) (4,903) (1,813) (25,560) (2,554)	(513,04) (232,83) (319,44) (662,47) (185,23) (5,492,30) (127,53) (632,27) (169,44) 853,77 (169,44) 853,77 (1392,01) 90,14 4394,11 57,16 525,33] (1,573,35 275,58
New Mexico Dregon Utah Washington Wyoming	(171,550) (126,225) (215,110) (602,660) (124,772) (2,660,446) <b>excres</b> <b>Wheat</b> (134,841) (189,551) (10,713) (19,606) 144,757 (146,475) 31,306 259,818 20,910 104,584 557,204	(5,630) (6,839) (10,973) (5,272) (28,068) (243,511) (10,687) (10,687) (5,004) (27,126) (2,883) (5,746) (2,903) (15,098) (13,913) (2,516) (2,516)	Rice (14) (716,698) (568) - (146) (397,290) (258,501) - (55) (2,544)	(764,439) Cotton (283,254) (787,944) 7,521 (165,348) (85) (813,781) (1,194,151) (403,121) (82,397) (452,148) (1,414,906)	(59,140) (55,774) (36,137 (12,245) (280,924) (280,924) (280,924) (39,011) 55,987 (106,673) 209,179 326,612 (14,222) (20,498) 77,112 75,098	(164) (936) (36) (373) (50,981) (20,741) 26,012 (3,278) (35,986) (14,446) (13,870) 18,678 (16,183) (10,240) (37,580) (214,660)	- (23,876) Peanuts (77,293) (6,163) (230) (103,056) - (1,013) 7,749 (69,012) 26,577 (1,125) (279,951)	(300) (87) (609) (6,246) (71,190) (71,190) (388) (55) (2,041) (580) (205) (844) (580) (473) (113) 7,271	(114) (32) (628) (4) (11,226) Soybeans 295,322 849,248 (7,935) 130,835 840,130 777,184 1,162,235 769,219 142,163 841,461 9,495	(5,455) (40,057) (36,556) (89,406) (13,526) (1,318,886) (3,57) (31) - (3,150) (6,6,841) (33) (16,636) (4,903) (1,813) (25,560)	(513,04 (232,83 (319,46 (662,47 (185,23 (5,492,30 State Total

\* Note: The data in this table is a sum of the effects of each commodity portrayed in the county information from the maps in Figures 1-10 for each commodity in each state. i.e., if a particular state had all red counties in wheat in Figure 1, the sum of wheat counties in that state would be negative in this table.

The Midwest/Plains Region would be the main benefactor of a forced base acre update in terms of total increase in base acres at an increase of over 6 million acres. Additional detail for this regional increase is available in Table 2, but it is clear that most of the increase results from the increase in planted acreage of soybeans during the specified 2012-2016 period.

The Western Region would experience the greatest loss of base acreage of the four regions at approximately 5.5 million acres (over 22% of their overall existing base) as shown in Table 2. According to Table 2, the Western Region loss in acreage is largely fueled by the change in wheat and barley base acres, but the state-by-state impacts are not as consistent as some of the other regions.

#### Conclusion

A significant increase in the overall number of soybean base acres will occur if this update is put into place. In contrast, there will be a decrease in the number of base acres to varying degrees in every other crop. As base acres are a parameter in calculating farm program payments in current and past programs, the above results will presumably cause the amount of aggregate payments of these crops to increase for soybeans and decrease for all other crops. These results, along with the marginal *increase* in total national base acres shown in Table 2, beg the question: will this update actually alleviate any of the current overall budgetary pressure? This question is not addressed in the current paper. Information on expected payments per acre on each crop would be needed to answer question. However, one certainly cannot conclude from these findings that the overall payments would show a decrease, given that there is a small increase in total US base acres. Nevertheless, the results do indicate substantial changes in base acres by county, state, and region for each covered commodity; these differences should be of interest to policy makers as they consider the merits of a forced base acre update.

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