

# Base, Planted and Insured Acres for Row Crops in Tennessee

---

S. Aaron Smith, Assistant Professor  
Rebecca Bowling, Extension Specialist  
Tina M. Johnson, Information Specialist  
Department of Agricultural and Resource Economics



## Introduction

Producers who use United States Department of Agriculture (USDA) programs administered by Farm Service Agency (FSA) and Risk Management Agency (RMA) should be aware of the different types and sources of acreage data. For example, base acres are used to estimate payments from commodity programs (Agriculture Risk Coverage — ARC or Price Loss Coverage — PLC), whereas crop insurance coverage is purchased on planted acres. Producers, policy makers and agricultural stakeholders should be cognizant of the impact acreage data have on farm profitability and producer risk management decisions. As such, the objectives of this publication are to 1) provide an overview of base, planted and insured acreage data in Tennessee; and 2) discuss acreage considerations for Tennessee producers, policy makers and other state agricultural stakeholders for the development of the next Farm Bill (the current Farm Bill is for the 2014 through 2018 crop years).

## Base Acres

Base acres are a farm's crop-specific acreage of wheat, oats, barley, corn, grain sorghum, rice, soybeans, sunflower seed, rapeseed, canola, safflower, flaxseed, mustard seed, crambe, sesame seed, dry peas, lentils, small chickpeas, large chickpeas and peanuts eligible for FSA program purposes (USDA-FSA). The Agricultural Act of 2014 (2014 Farm Bill) also provided the introduction of generic base—base acres previously attributed to upland cotton. Generic base acres are eligible for ARC or PLC payments if a covered commodity is planted on generic base acres.

Base acreage provisions have been included in the Farm Bill since the Agricultural Act of

1956; however, the definition of base acreage and the commodities eligible for base acreage have been modified over subsequent Farm Bills. The current base acres were established in the 2002 Farm Bill. Subsequent Farm Bills have allowed producers to realign base acres amongst eligible crops (base acres have been reallocated using the farm's most recent three- to five-year planting data). In the 2014 Farm Bill, producers had a one-time choice to reallocate base acres amongst eligible crops grown in the previous four crop years (2009-2012) or leave base acreage unchanged from the 2008 Farm Bill (**Figure 1** shows the result of the 2014 Farm Bill base acre reallocation in Tennessee). In Tennessee, acreage reallocation resulted in increased corn and soybean base acres and reductions in grain sorghum and wheat base acres. The 2014 Farm Bill had no mechanism to increase base acreage, only reallocate base acreage at the owner's discretion. However, base acres in Tennessee increased 231,100 acres from 2013 to 2015. The base acre increase was due, primarily, to land exiting a conservation reserve contract (at expiration or voluntarily terminated), allowing the land to revert back to its pre-conservation reserve contract base acreage.

ARC and PLC payments are made to eligible base (and generic base) acres, not planted acres.<sup>1</sup> As such, payments may occur for a covered commodity even if that commodity was not planted during that crop year. Thus, how a farm's base acres align with its planted acres will partially determine how effective ARC and PLC are as a risk management tool. Generic base acres must be planted to a covered commodity to be eligible for ARC or PLC payments.

---

<sup>1</sup> Planted acres are the farm-specific quantity of acres planted to a commodity during a production cycle. Planted acres can be further divided into harvested and failed (see below for clarification).

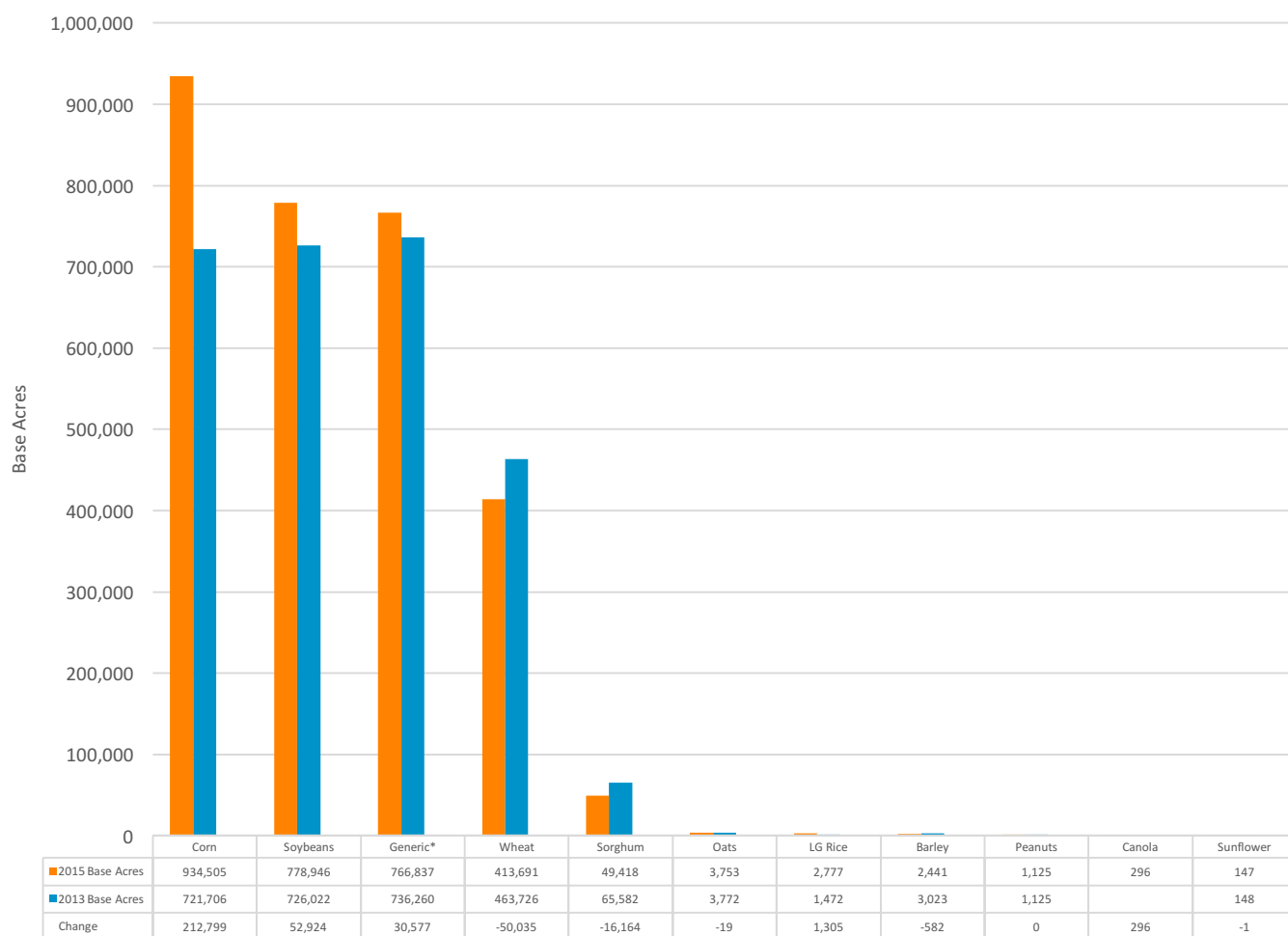


**Figure 1.** 2013 and 2015 Base Acres in Tennessee by Commodity.

In 2015, base acres in Tennessee totaled 2,964,476 acres. All 95 counties have base acres ranging from a minimum of three acres (Unicoi County) to a maximum of 241,620 acres (Gibson County). In Tennessee, it is important to note base acres do not align with planted acres. Additionally, farms with less than 10 base acres are not eligible for ARC or PLC payments, unless the farmer is a socially disadvantaged farmer or a limited-resource farmer, as defined by USDA.

### *Planted Acres*

Two of the most commonly used sources for planted acreage data are USDA-FSA and USDA-National Agricultural Statistics Service (NASS). FSA and NASS planted acreage data indicate different planted acres for corn, cotton, soybeans and wheat in Tennessee (**Figure 2**). This is largely due to how the data are collected or how estimates are calculated.

FSA crop acreage data are compiled from annual reports, submitted and certified by producers, indicating all cropland use on their farms. Data aggregated for each county contain planted, prevented, and failed acres for each crop in that county. Prevented planting is defined as a failure to plant due to a natural disaster that is general to the surrounding area and that prevents other producers from planting acres with similar characteristics. Failed acres are acres that were planted that will go unharvested because of disaster-related conditions. The annual acreage report submitted by producers is required to maintain eligibility for many FSA programs such as ARC, PLC and marketing loans.

NASS collects planted acreage data from producers through the Crops/Stocks surveys, which are conducted quarterly. The data collected through the survey are supplemented with FSA crop acreage data and remote sensing data to make crop acreage estimates. NASS reviews the crop definitions in the FSA data to account for any variation between the agencies (USDA-NASS). Data are reported over an extended period of time to FSA, then FSA reports data weekly to NASS (starting in early spring).



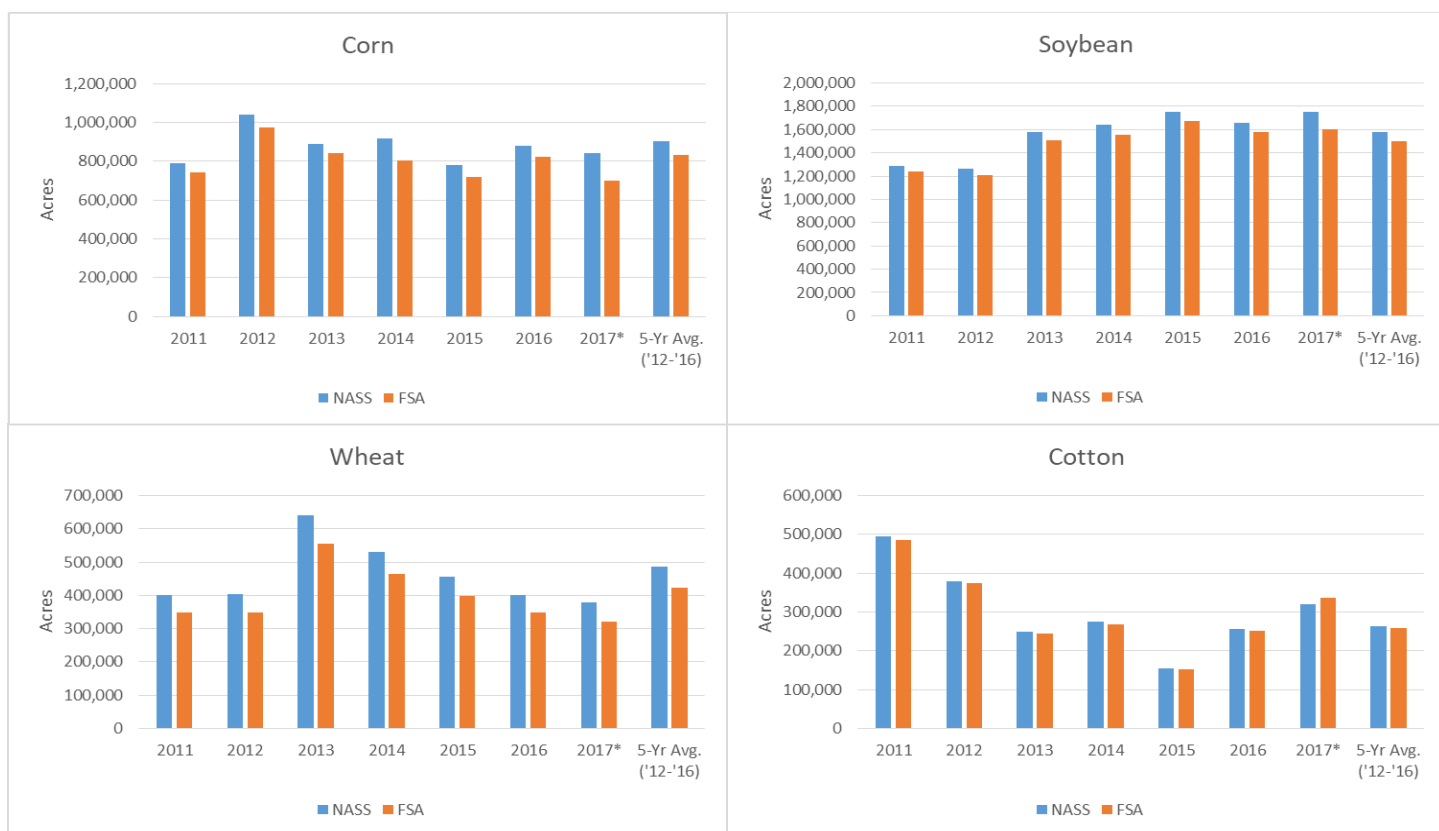


**Figure 2.** FSA-Reported and NASS-Estimated Planted Acres in Tennessee for Corn, Cotton, Soybeans and Wheat, 2011-2017.

\*2017 is preliminary data, as of August 10, 2017.

Because FSA data are self-reported and certified by producers, NASS-estimated planted acres should be greater than FSA acres (producers can plant and not report acres). However, this difference (NASS less FSA) is typically consistent over time (**Table 1**). The five-year average (2012-2016) difference in NASS and FSA planted acreage for corn, cotton, soybeans and wheat has been 69,203; 5,153; 74,246; and 63,024 acres, respectively (**Table 1**).

**Table 1.** NASS Planted Acreage Estimate less FSA Reported Planted Acreage in Tennessee, 2011-2016

| Year                           | Corn    | Soybeans | Cotton | Wheat  |
|--------------------------------|---------|----------|--------|--------|
| 2011                           | 48,269  | 49,847   | 9,054  | 51,911 |
| 2012                           | 64,046  | 53,801   | 6,617  | 55,212 |
| 2013                           | 48,754  | 74,705   | 4,851  | 84,042 |
| 2014                           | 116,648 | 86,382   | 7,959  | 65,971 |
| 2015                           | 58,708  | 76,392   | 3,209  | 58,056 |
| 2016                           | 57,858  | 79,952   | 3,041  | 51,840 |
| 5-Yr Avg. Difference ('12-'16) | 69,203  | 74,246   | 5,153  | 63,024 |

## Insured Acres

Crop insurance provides in-season protection against decreases in revenue or yield below a guaranteed level. RMA administers all federal crop insurance programs on behalf of the Federal Crop Insurance Corporation (FCIC). FCIC is a government corporation within USDA that provides programs designated in the Federal Crop Insurance Act. RMA and FCIC do not sell crop insurance directly to producers. Producers purchase federal crop insurance products through approved insurance providers (AIPs). The AIPs enter standard reinsurance agreements (SRA) with FCIC.

There are numerous crop insurance products available for producers to purchase (Yield Protection [YP], Revenue Protection [RP], Revenue Protection with Harvest Price Exclusion [RP-HPE], Whole Farm Revenue Protection [WFRP], etc.). Additionally, different buy-ups<sup>2</sup> and unit structures<sup>3</sup> influence the amount and type of loss covered for each farm. Federal crop insurance data are aggregated and presented annually for each state, county, crop and insurance product in the Summary of Business (SOB) report. Total acres insured

through federal crop insurance programs in Tennessee are shown in **Table 2**. On average, more than 80 percent of the FSA-reported planted acreage in Tennessee from 2012 to 2016 was insured through federal crop insurance (all products aggregated).

Since the early 1990s, with each subsequent Farm Bill, crop insurance utilization and buy-up level has dramatically expanded across Tennessee (**Figures 3-6**). Expansion of the federal crop insurance program in Tennessee and across the US can be partially attributed to the dramatic increase in production costs for primary row crops. Additionally, government subsidization of crop insurance premiums makes federal crop insurance a cost-effective risk management tool for producers. Many row crop producers consider crop insurance the most important risk management tool available.

**Table 2.** RMA Insured Acres in Tennessee by Crop, 2011-2017

| Year                              | Corn    | Soybeans  | Cotton  | Wheat   | Sorghum |
|-----------------------------------|---------|-----------|---------|---------|---------|
| 2011                              | 635,207 | 1,059,434 | 464,564 | 256,402 | 12,750  |
| 2012                              | 821,459 | 1,015,222 | 336,830 | 261,095 | 12,199  |
| 2013                              | 761,607 | 1,308,849 | 260,243 | 429,215 | 13,221  |
| 2014                              | 699,471 | 1,342,628 | 243,165 | 378,392 | 25,934  |
| 2015                              | 644,804 | 1,454,378 | 185,251 | 343,724 | 94,120  |
| 2016                              | 721,481 | 1,371,046 | 233,217 | 303,907 | 4,144   |
| 2017                              | -       | -         | -       | 273,196 | -       |
| 5-Yr Avg.<br>Insured<br>(‘12-‘16) | 729,764 | 1,298,425 | 251,741 | 343,267 | 29,924  |

<sup>2</sup> Buy-up refers to the amount of coverage purchased relative to a benchmark revenue or yield (typically ranges from 55 percent to 85 percent for row crops). For example, if a producer has a benchmark yield (APH yield) of 150 bushels per acre he/she could “buy-up” (purchase) a policy for 60 percent (establishing a 90 [150 x 60 percent] bushel-per-acre

yield guarantee). As the buy-up increases, so does the premium.

<sup>3</sup> Each parcel of land that is insured independently of other parcels is defined as a unit. The four unit structures are basic, optional, enterprise and whole-farm (USDA-RMA).

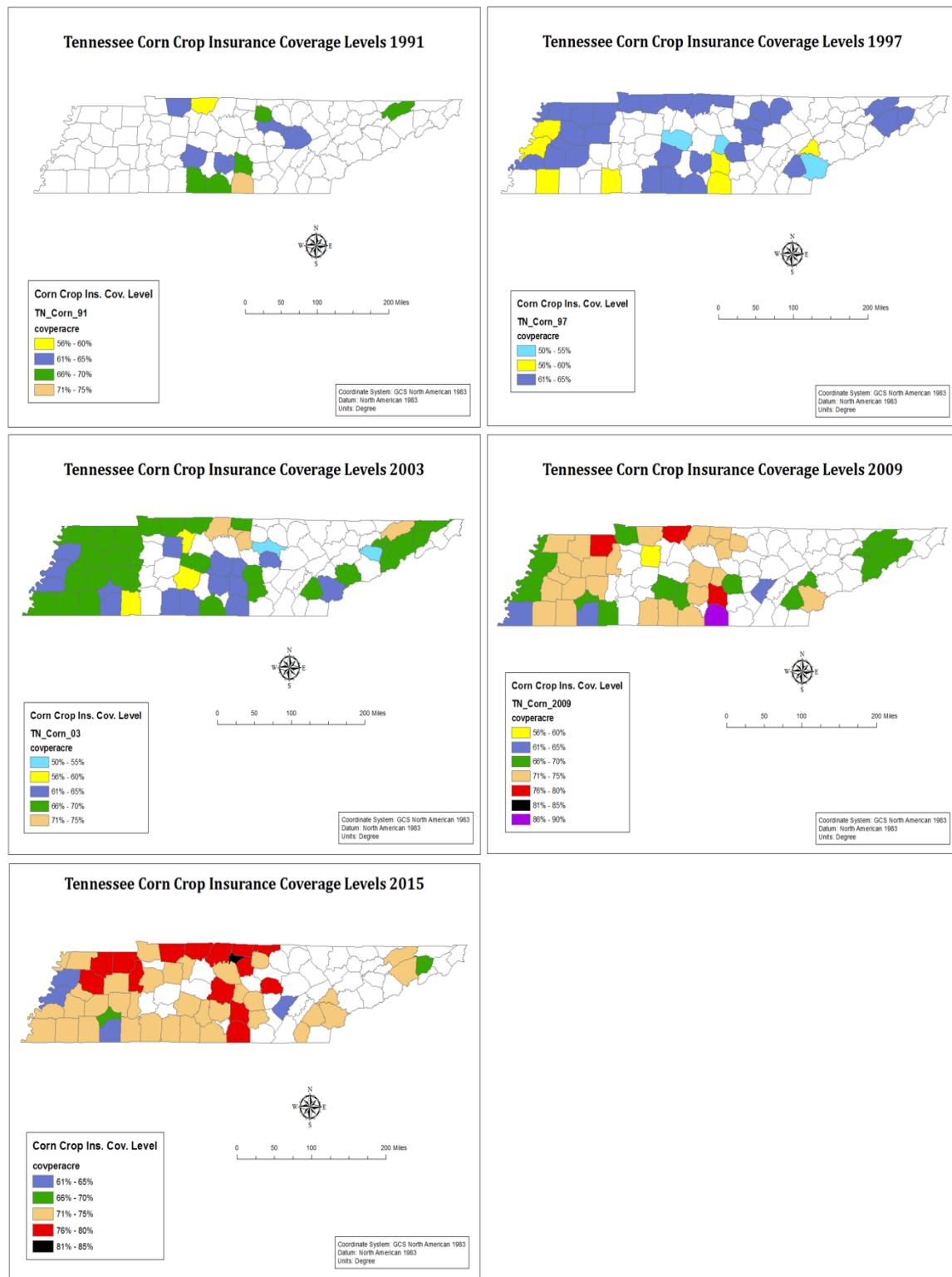


**Figure 3.** Corn Crop Insurance Buy-Up Levels the Year after a New Farm Bill in Tennessee (1991, 1997, 2003, 2009 & 2015).

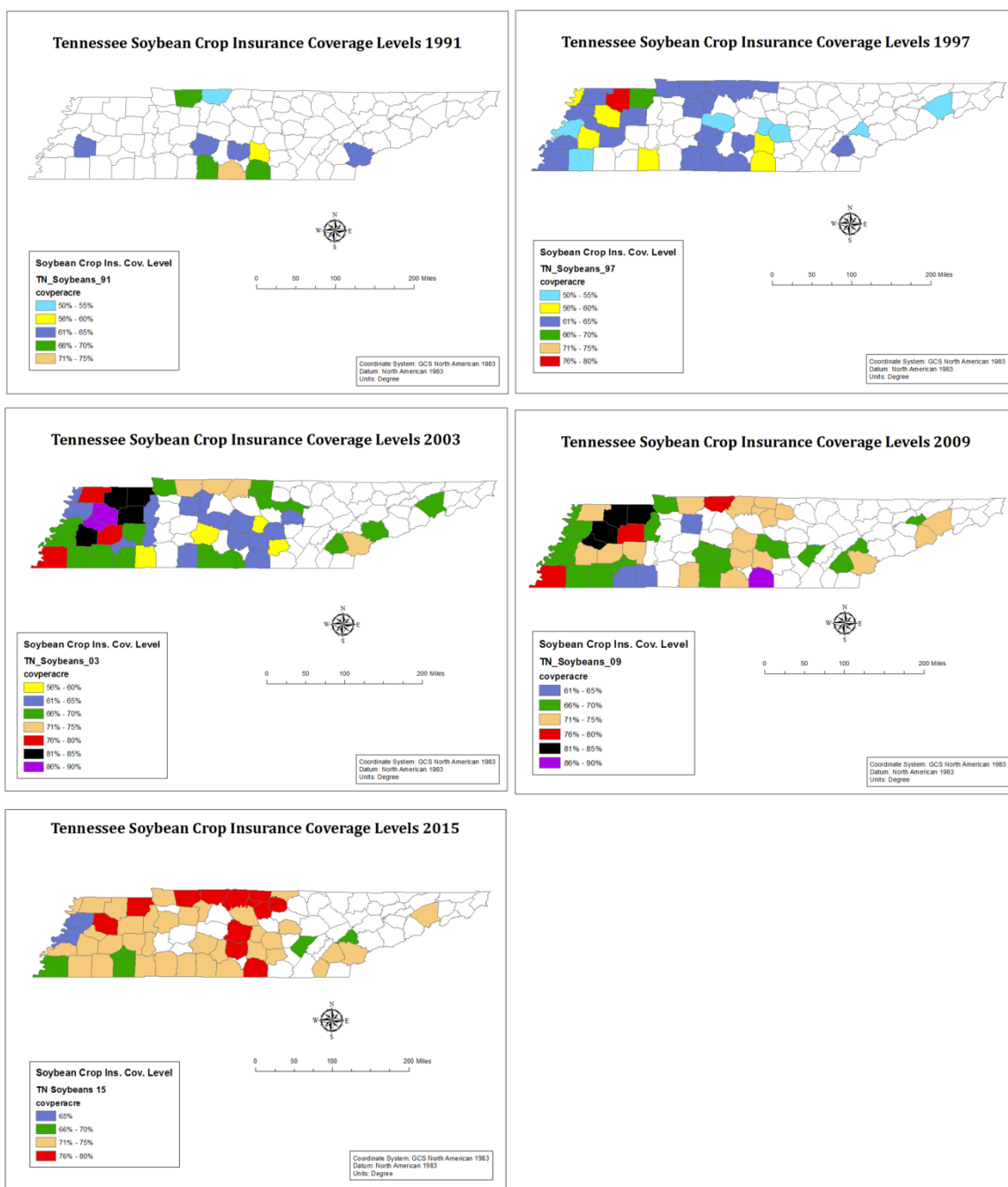


**Figure 4.** Soybean Crop Insurance Buy-Up Levels the Year after a New Farm Bill in Tennessee (1991, 1997, 2003, 2009 & 2015).

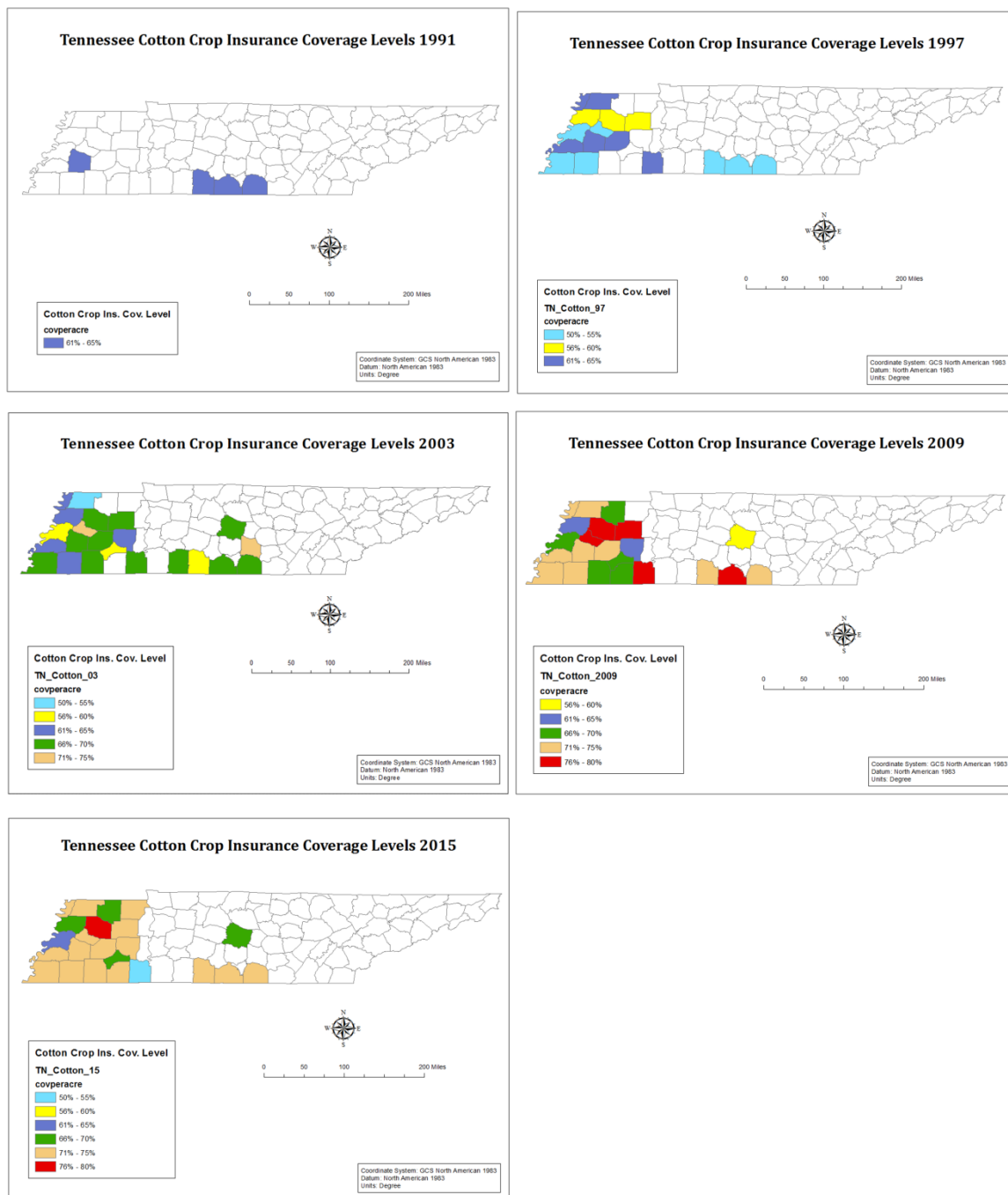


**Figure 5.** Cotton Crop Insurance Buy-Up Levels the Year after a New Farm Bill in Tennessee (1991, 1997, 2003, 2009 & 2015).

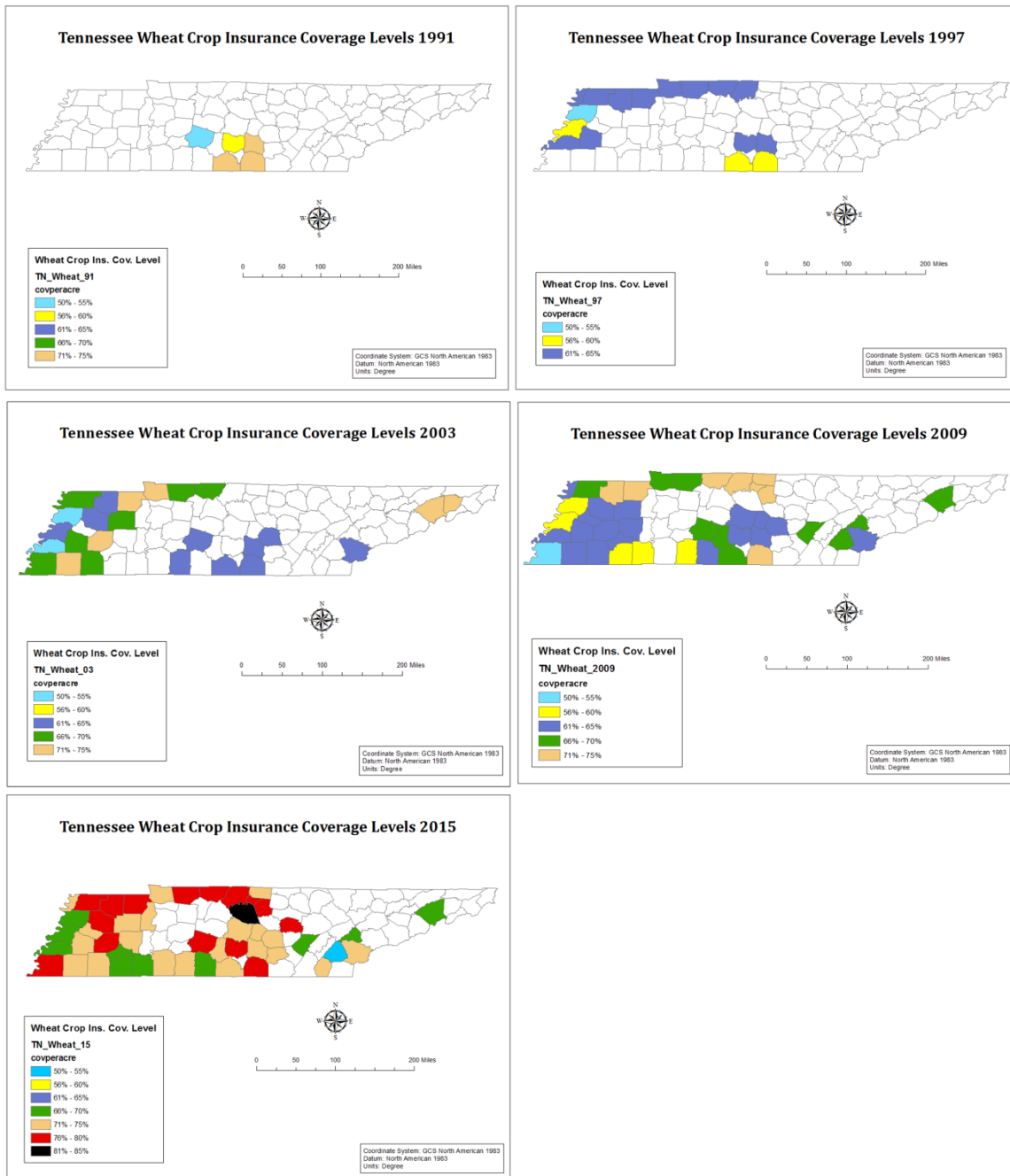


**Figure 6.** Wheat Crop Insurance Buy-Up Levels the Year after a New Farm Bill in Tennessee (1991, 1997, 2003, 2009 & 2015).

**Table 3.** Percent of FSA Reported Acres Planted and Failed to Plant Insured Through RMA Crop Insurance in Tennessee, 2011-2017

| Year                                  | Corn | Soybeans | Cotton | Wheat | Sorghum |
|---------------------------------------|------|----------|--------|-------|---------|
| 2011                                  | 86%  | 85%      | 96%    | 74%   | 76%     |
| 2012                                  | 84%  | 84%      | 90%    | 75%   | 71%     |
| 2013                                  | 91%  | 87%      | 106%*  | 77%   | 78%     |
| 2014                                  | 87%  | 86%      | 91%    | 82%   | 77%     |
| 2015                                  | 89%  | 87%      | 122%*  | 87%   | 76%     |
| 2016                                  | 88%  | 87%      | 93%    | 87%   | 91%     |
| 5-Yr<br>Avg.<br>Insured<br>(‘12- ‘16) | 88%  | 86%      | 100%*  | 81%   | 79%     |

\* In 2013 and 2015, there were 43,197 and 50,056 prevented planted acres of cotton, respectively. With prevented planting acres included with planted and failed acres in 2013 and 2015, the percentages of FSA reported acres insured were 90 percent and 92 percent, respectively.

## Acreage Considerations For Tennessee in the Next Farm Bill

There will be plenty of spirited debate regarding priorities for the development of the next Farm Bill. However, when examining acreage considerations, four issues should be at the forefront for Tennessee row crop agriculture:

- 1) Narrowing the gap between base acres and planted acres;

*For 2014-16, FSA planted acres were 4.2 percent higher than base acres (including generic base acres). NASS planted acres were 10.5 percent greater than base acres (including generic base) for corn, soybeans, cotton and wheat.*

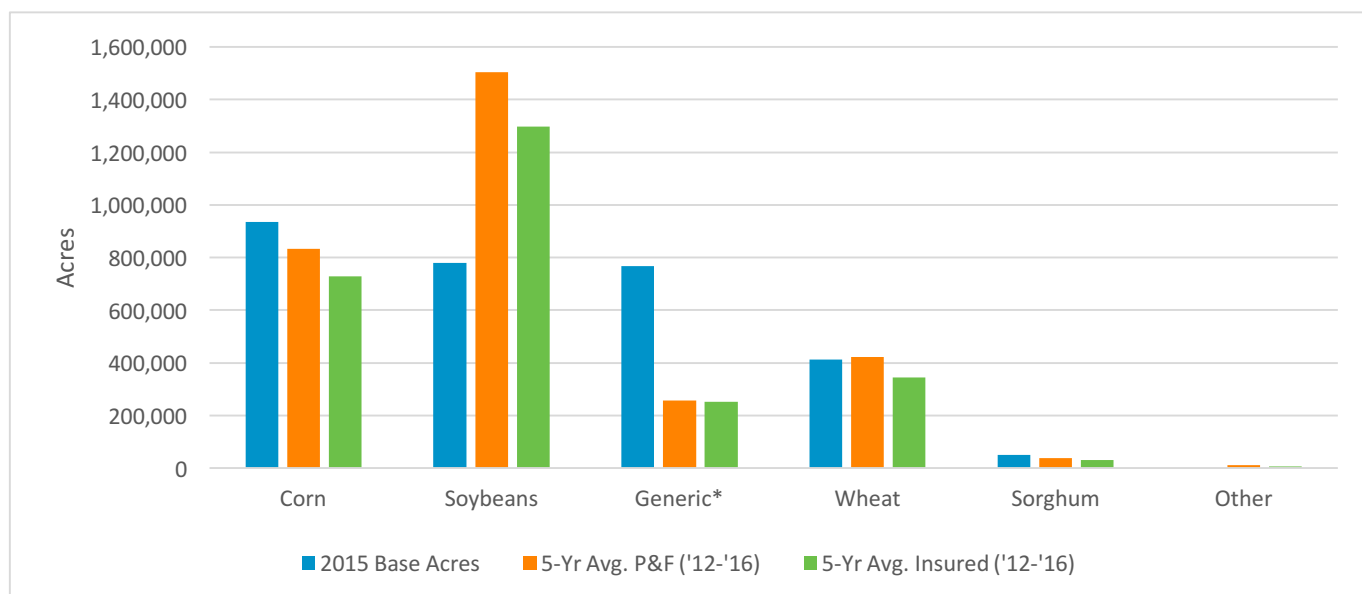
- 2) Eliminating no ARC or PLC payments for farms with less than 10 acres;

*As specified in the 2014 Farm Bill, FSA farms with less than 10 base acres are not eligible for ARC or PLC payments, unless the producer is defined as a socially*

*disadvantaged farmer or a limited-resource farmer. This stipulation disproportionately impacts row crop producers in nontraditional row crop areas in East and Middle Tennessee.*

- 3) Reallocating base acres amongst crops to better reflect the crop mix currently being planted; and

*In Tennessee, base acres are not aligned with planted acres (Figure 7). Corn base acres are 101,708 acres greater than the five-year average FSA planted acres. Soybean base acres are 724,808 acres fewer than the five-year average FSA planted acres. Wheat base acres and FSA planted acres are the most closely aligned, with 9,285 fewer base acres than the five-year average planted. Comparing generic base to the five-year average, FSA cotton planted acres shows 508,972 more generic acres. Differences between base and planted acres reduce the effectiveness of ARC and PLC as a risk management tool for producers.*



\* Generic base acres and cotton planted and insured acres.

**Figure 7.** Tennessee Base, Planted & Failed, and Insured Acres by Commodity.

#### 4) The use/future of generic base acres.

*Twenty-six percent of all base acres in Tennessee are generic base acres. Generic base acres present producers with a unique set of decisions, relative to other base acres. In order to obtain a commodity program payment on generic base acres, a covered commodity must be planted. Thus, when only considering commodity program payments, there is a disincentive to plant cotton on generic base acres. However, generic base acres do provide producers with more flexibility than base acres, as they can attribute generic base to different crops each year, as determined by plantings.*

## Summary and Conclusions

The 2014 Farm Bill provided significant changes to Tennessee row crop producers' safety net. Commodity programs, crop insurance and conservation were all dramatically altered. The next Farm Bill, currently being negotiated, is unlikely to provide the significant overhaul to commodity programs that occurred in 2014. However, modifications and reductions in spending appear likely. As such, it is important for Tennessee producers, policy makers and other agricultural stakeholders to be cognizant of the importance of base, planted and insured acreage data and how they impact farm profitability and risk management decisions.

## Acronyms

USDA - United States Department of Agriculture  
FSA - Farm Service Agency  
RMA - Risk Management Agency  
NASS - National Agricultural Statistics Service  
ARC - Agriculture Risk Coverage  
PLC - Price Loss Coverage  
FCIC - Federal Crop Insurance Corporation  
AIP - Approved Insurance Providers  
SRA - Standard Reinsurance Agreements  
YP - Yield protection  
RP - Revenue Protection  
RP-HPE - Revenue Protection with Harvest Price Exclusion  
WFRP - Whole Farm Revenue Protection  
SOB - Summary of Business  
APH - Actual Production History



## References and Additional Resources

Bowling, R., S.A. Smith, and T. Johnson. 2017. "2017 Planted Acreage for Corn, Cotton, Grain Sorghum, Soybeans and Wheat in Tennessee by County." University of Tennessee Extension Publication Number W 442. August. Available online: [https://ag.tennessee.edu/arec/Documents/publications/W\\_442.pdf](https://ag.tennessee.edu/arec/Documents/publications/W_442.pdf).

Fewell, J.P and S.A. Smith. 2014. "The Agricultural Act of 2014 Update for Tennessee." University of Tennessee Extension Publication Number D 7. February. Available online: <https://ag.tennessee.edu/arec/Documents/publications/Agricultural%20Actof2014UupdateforTNFeb14.pdf>.

U.S. Congress. (1956). Agricultural Act of 1956. 84th Congress. Public Law 540 (H.R. 10875). May 28. Available online: <https://www.gpo.gov/fdsys/pkg/STATUTE-70/pdf/STATUTE-70-Pg188.pdf>.

U.S. Congress. (2002). Farm Security and Rural Investment Act of 2002. 107<sup>th</sup> Congress. Public Law 107-171 (H.R. 2646). May 13. Available online: <https://www.gpo.gov/fdsys/pkg/PLAW-107publ171/pdf/PLAW-107publ171.pdf>.

U.S. Congress. (2008). Food, Conservation, and Energy Act of 2008. 110<sup>th</sup> Congress, 2<sup>nd</sup> Session. Public Law 110-234 (H.R. 2419). January 3. Available online: <https://www.gpo.gov/fdsys/pkg/BILLS-110hr2419enr/pdf/BILLS-110hr2419enr.pdf>.

U.S. Congress. (2014). Agricultural Act of 2014. 113<sup>th</sup> Congress, 2<sup>nd</sup> Session. Public Law 113-79 (H.R. 2642). February 7. Available online: <https://www.congress.gov/113/plaws/publ79/PLAW-113publ79.pdf>.

USDA - Farm Service Agency (FSA) - Crop Acreage Data - <https://www.fsa.usda.gov/news-room/efoia/electronic-reading-room/frequently-requested-information/crop-acreage-data/index>.

USDA - National Agricultural Statistics Service (NASS) Quick Stats - <https://quickstats.nass.usda.gov>.

USDA - Risk Management Agency (RMA) - Summary of Business Report - <https://www.rma.usda.gov/data/sob.html>.



W 444 9/17