

**National Organic Standards Board  
Certification, Accreditation, Compliance Subcommittee  
Climate Induced Farming Risk and Crop Insurance Discussion Document  
February 14, 2023**

**The reality of organic crop insurance: Not meeting organic farmer needs and not meeting actuarial mandate.**

**Summary**

As USDA begins the process of implementing the Transition to Organic Partnership Program (TOPP), there is heightened urgency to help transitioning and existing organic farmers manage their risk. Transitioning farmers face challenges regarding farming methods, yields, on-farm production practices, and marketing. Existing organic farmers face increasing risk as climate change creates on-farm problems such as flooding, drought, and hail. As USDA enters a new era, promoting climate-smart practices, the NOSB notes that the best climate-smart production system is one that is certified organic.

The new Transition to Organic Partnership Program strives to greatly increase the amount of farmland under organic management in the near term. This program, in conjunction with climate-smart farming methods and climate change induced risk, highlights the need to improve the existing policy tools offered to help farmers manage their risk, namely crop insurance.

This discussion document provides background information for the evolution of crop insurance, organic crop insurance, and a synthesis of the existing related literature and available data. Anecdotal evidence is strongly suggestive that crop insurance, in its current iteration, does not work as well as it could for organic farmers and, consequently, does not adequately help organic farmers manage their risk. While the extant body of literature has made great strides in pointing out problems with organic crop insurance, at the time of this writing there is an insufficient body of evidence documenting the shortfalls of organic crop insurance. Through this discussion document, we aim to fill this knowledge gap.

Through the public comment process, we seek your responses to the following six questions. In your comment, please indicate your crop and region when applicable.

1. What has been your experience (or your members' experience) with crop insurance, including the type purchased?
2. What do you see as the most significant obstacle to organic farmer adoption of crop insurance?
3. What benefit do organic producers receive from crop insurance (on other words, what is working for them?)
4. What problems have farmers experienced with their crop insurance policies?
5. What recommendations would you make to improve the functioning of crop insurance for organic producers?
6. In your view, are there other, perhaps better, mechanisms for organic farmer risk mitigation?

## Introduction

Crop insurance is currently the primary federal policy available to help farmers manage their risk from production (low yields) or price (as reflected by uncertainty of input and output prices). Overseen by the Risk Management Agency of USDA, the Federal Crop Insurance Program is a market-based insurance program (USDA RMA, undated). Producers of crops that lack insurance programs are eligible to enroll in the noninsured crop disaster payment program under the purview of the Farm Service Agency, which targets losses due to natural disasters (USDA FSA, undated).

Prior to 2014, crop insurance was one of many federal programs that supported farm income. With the passage of the 2014 Farm Act, crop insurance became the dominant method of federal support for farmers, by insuring losses caused by low prices or low yields. The statute requires that payouts for crop insurance plus a small reserve are equal to the premiums paid, so premiums are meant to be actuarially fair. In addition to pricing the insurance correctly, crop insurance policies need to be designed to attract enough farmers so that the program effectively pools risk (Hamilton, 2020). Adverse selection, where only the highest risk individuals opt for insurance, is a well-known problem for insurance, and crop insurance is not exempt from this undesirable possible outcome. An analysis of crop insurance data for the state of Iowa finds that premiums are too high for highly productive land and too low for less productive land (Price et al. 2019).

Prior to 2002, organic farming was not considered a 'good farming practice,' which effectively made organic farming excessively risky from an actuarial standard (Morris et al., 2019). While producers were able to buy crop insurance, it was likely that they would not receive payment for their losses. Despite the switch to defining organic methods as good farming practices, organic producer use of crop insurance is relatively low (Raszap Skorbiansky et al., 2022). Morris et al. challenge that concept, and argue that comparisons of crop insurance adoption should be based on crop type. When compared to the rest of agriculture, the organic farm sector has more specialty crops and fewer field crops (Dimitri, 2010), in terms of value of sales, and crop insurance is more available for field crops. In 2016, between 50-100 percent of the value of organic corn, almonds, rice, wheat, and soybean crops were insured, which is roughly in line with the insurance coverage for agriculture as a whole (Morris et al., 2019).

Moreover, as Morris et al. (2019) report, organic farming systems and crop insurance are not, in many ways, incentive compatible. Organic farmers manage their risks through improving soil organic matter, rotating crops, and diversifying their operations (Hanson et al., 2004). Improving soil health is viewed as on-farm risk management by many organic producers (Snyder et al., 2022). Another form of risk is price risk related to market access and other market factors. Some producers, especially those who raise specialty crops, manage their market risk by creating a CSA, or by marketing their production to multiple outlets (Snyder et al., 2022).

Crop insurance addresses only risks created by yield or price variability (although a few policies address quality) and furthermore, decisions to purchase insurance are part of a broader set of farmer actions. For example, crop insurance may be a requirement for producers seeking financing. DeLay et al. (2022) found that highly leveraged producers are also more likely to purchase crop insurance. Grain growers are more likely to use crop insurance (Belasco, 2013).

Implications of low adoption of crop insurance by organic farmers are many, including preventing RMA from collecting data on organic production outcomes (Delbridge and King, 2018). At the same time, in

2021, for nine of the ten top organic crops the payouts exceeded the premiums received.<sup>1</sup> For every year between 2012 and 2021, for all crop insurance policies, the payouts exceeded the premiums received (RMA USDA, 2022). Thus, the organic crop insurance program is not meeting its mandate to be actuarially fair. A simulation of the 2014 shift to using organic specific yields (referred to as t-yield) indicates that the use of organic t-yields did improve the actuarial fairness, but farmers might have responded by not purchasing crop insurance (Delbridge and King, 2018).

The work by Morris et al. (2019), funded by OREI, suggests that if more farmers transitioned their operations to organic, farm level risk would be reduced, which would translate to lower public expenditures on crop insurance. However, this conclusion is based on the potential for organic farmers to reduce or manage their on-farm risks through their farming practices in addition to purchasing crop insurance. If all of the farmers able to manage risk through their farm practices opt not to purchase crop insurance, those buying crop insurance would be riskier producers. And, at the time of this writing, the evidence points to the need to change the parameters of organic crop insurance to meet the mandate for actuarial fairness, unless the Risk Management Agency agrees to place organic and conventional farmers in the same insurance pools.

Since crop insurance is the primary instrument for sharing producer risk, improving the product to better meet the needs of organic producers is an important next step. A question that remains outstanding is how to design the crop insurance program in a way that is sound and provides the correct incentives to organic farmers. Another, related, question is whether it is essential to assess organic products separately and requiring them to be actuarially fair on their own. As Morris et al. (2019) explain, creating a strong crop insurance product for the organic sector has been problematic.

### **The creation and evolution of crop insurance**

Crop insurance was created in the 1938 Farm Bill, through the Federal Crop Insurance Act. The history of the Farm Bill over time provides important context for understanding the shape of today's farm policy, including the design of crop insurance. In the earliest years of farm policy, competing needs of the primary crops – cotton, wheat, and corn – repeatedly created conflict among House members during Farm Bill negotiations (Coppess, 2018). Those negotiating the 1938 Farm Bill struck a deal that consisted of acreage reductions in cotton, mandatory loans for corn, and crop insurance for wheat. During this first iteration farmers were allowed to pay crop insurance premiums with cash or wheat, and only yield insurance was available (Coppess, 2018). The tensions among crops, and then later between urban and rural areas, remain important forces in the Farm Bill debates.

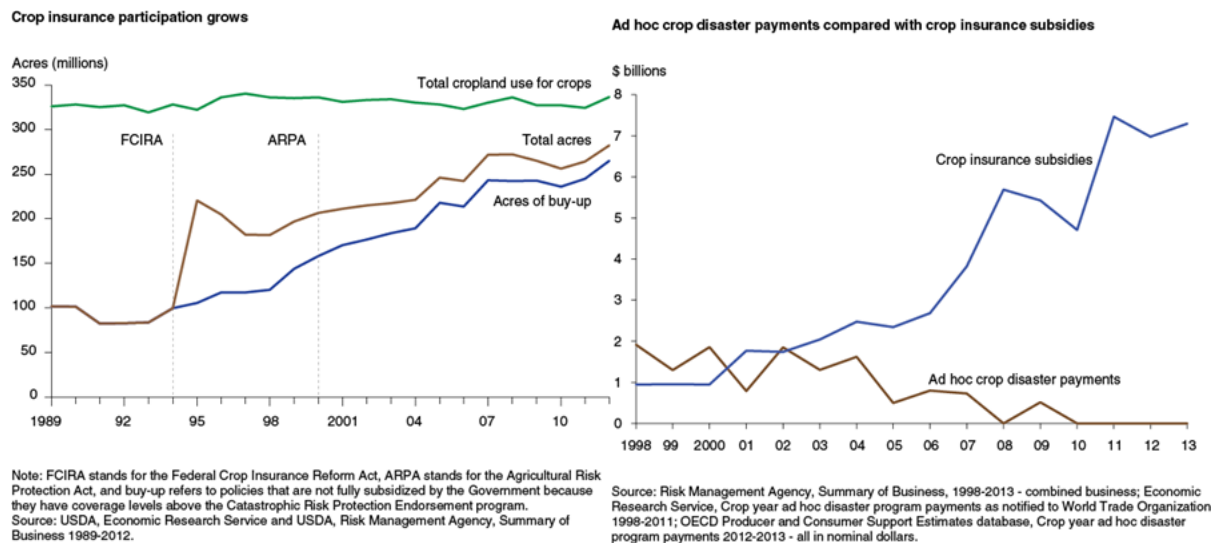
In 1980, the Farm Bill specified that the federal government could subsidize crop insurance premiums, and also transferred control of the insurance policies to private sector agents (Coppess, 2018). The subsidy amount was increased in 1994, and simultaneously, purchasing crop insurance became a requirement for participating in other farm programs (O'Donahue, 2014). Premium subsidies were increased again in 2000, and revenue insurance became eligible for subsidies (Coppess, 2018) which led to farmers selecting higher levels of insurance coverage (O'Donahue, 2014). The following two diagrams (see figure 1) show changes in crop insurance adoption since 1998. The first shows that insured acres, and the number of acres with higher coverage levels, increased while total

---

<sup>1</sup> The ten top organic crops, in terms of liability, are corn, apples, soybeans, wheat, blueberries, potatoes, grapes, citrus fruit, tomatoes and peanuts (RMA, USDA 2022).

acres in production remained stable. The second diagram shows how subsidies increased over time, while disaster payments declined (O'Donahue, 2014).

**Figure 1. Crop insurance use and subsidies over time**



Source: O'Donahue, 2014.

**Adoption of crop insurance by organic producers**

Crop insurance adoption by organic farmers ranged from 20-27 percent of certified organic farms during the years 2008, 2014, 2019 and 2021 (see table 1). While the number of organic farms with crop insurance rose over the 13 years, the percent of farms increased only slightly suggesting that adoption rates remain fairly constant. For 2014, 2019 and 2021, approximately 60 percent of those using crop insurance chose to cover all of their farmland.

**Table 1. Organic farm crop insurance adoption: 2008, 2014, 2019, 2021**

Year	Operations			Share of farmland insured					
	Insured farms	Total certified farms	Percent of farms insured	Less than .25	.25 to .49	.50 to .74	.75 to .99	All	
	<i>number</i>			<i>Percent of farms in each category</i>					
2008	2,141	10,903	20	n/a	n/a	n/a	n/a	n/a	
2014	2,781	11,715	24	8	11	14	10	58	
2019	4,255	15,548	27	5	10	16	12	56	
2021	4,501	16,194	26	5	7	14	15	60	

Note: Share of farmland insured presents the percent of operations in each category of farmland insured for those choosing crop insurance.

Source: Organic Surveys, 2014, 2019 and 2021.

A different perspective on the use of crop insurance by organic farmers is provided by the Risk Management Agency, through their annual report on the number of organic crop insurance policies purchased (RMA, USDA 2022). The average number of organic policies per farm (for those using crop insurance), shown in Table 2, increased from 2.18 policies per farm in 2014 to 2.46 in 2021. One notable

trend is the decrease in the number of whole farm revenue protection crop insurance policies purchased between 2017 and 2021.

**Table 2. Crop insurance policies 2012-2021**

Year	Organic policies	Policies per organic farm	Organic Specialty Crop policies	Whole Farm Revenue Protection
	<i>Number</i>			
2012	5,152		na	*
2013	5,716		na	*
2014	6,073	2.18	na	*
2015	6,827		1,789	1,122
2016	7,936		1,922	2,204
2017	8,442		1,984	2,722
2018	9,161		2,213	2,490
2019	9,815	2.30	2,429	2,156
2020	10,763		2,608	2,029
2021	11,078	2.46	na	1,934

Notes: Policies per farm are calculated by dividing the number of organic policies in this table by the number of farms opting for crop insurance in Table x.

\*Whole Farm Revenue Protection was created in the 2014 Farm Act, and thus not available prior to 2015. na = data not publicly available.

Sources: Raszap Skorbiansky et al., 2022; RMA USDA, 2022.

For farmers who do not use crop insurance, the primary reason for not adopting it is they don't need it or want it (see table 3). In 2021, the next most often given reason for not using crop insurance is lack of familiarity with crop insurance, followed by the cost of insurance.

**Table 3. Organic farmer reasons for not buying crop insurance**

Year	Too expensive	Farmer unfamiliar	Agent unfamiliar	Not available for crop	No organic price elections	Don't need or want	Other
	<i>percent of farms</i>						
2014	22	24	na	na	na	na	na
2019	11	15	1	9	1	53	10
2021	11	18	1	8	1	50	11

Note: na = not available

Source: Organic Surveys, 2014, 2019 and 2021

Recent work using primary data shows that the greater the number of commodities grown on the organic farm operation, the less likely a farmer is to adopt crop insurance (Belasco and Fuller, 2022). Similarly, farms with more years of experience in the organic sector are less likely to adopt crop insurance, while organic farms with higher gross sales are more likely to adopt crop insurance (Belasco and Fuller, 2022). In contrast, research using USDA's Agricultural Resource Management Survey (ARMS) data finds that relatively more diverse organic farms are more likely to adopt crop insurance, but Belasco and Fuller argue this may result from the ARMS data, which includes farms with relatively low

levels of crop diversity. The ARMS data also suggest that the higher the share of farmland that is organic, the lower the likelihood of purchasing crop insurance. Network effects may be present, as well, given that the more organic farms in a county, the higher the likelihood of buying crop insurance. Also supporting the idea of network effects is the result from Morris et al. (2019), which indicates that peer use is related to a producer's interest in crop insurance.

Qualitative data indicates that organic farmers who do not buy crop insurance indicate their decision to pass on crop insurance results from their belief that their farms are too diversified or too small to make crop insurance worthwhile (Belasco and Fuller, 2022). Other research, conducted by USDA's Economic Research Service (ERS), suggests that organic producers believe that crop insurance and other USDA programs benefit large scale operations, and furthermore, completing the paperwork tracking yields for each crop is prohibitive (Raszap Skorbiansky et al., 2022). The same study found that producers prefer to manage risk through their production practices, rather than purchasing crop insurance (Raszap Skorbiansky et al., 2022).

Organic farmers who purchase insurance based on organic t-yields tend to have higher losses, when compared to organic farmers who have a long enough history to base insurance on their actual production history (Delbridge and King, 2018). The use of t-yields may be a barrier to organic insurance adoption by beginning farmers. This is especially problematic since, in 2021, 54 percent of organic farmers were farming organically for less than 10 years (USDA NASS, 2022).

### **Crop insurance payouts**

The Environmental Working Group's (EWG) Farm Subsidy database includes aggregated data on crop insurance. Note that organic specific insurance information is not included in the EWG database. Insurance payouts for the period 1995 - 2020 totaled \$144 billion, and four crops accounted for 77 percent of these payouts: corn, soybeans, wheat, and cotton (EWG, 2022). For organic crop insurance, for the years from 2012-2021, \$1.4 billion of indemnity payments were made to farmers (USDA RMA, 2022). Four crops – corn, soy, wheat, and rice – accounted for 53 percent of the total payments to farmers.

For the years 1995-2020, 61 percent of indemnity payments were for losses farmers realized due to drought (34 percent) and excessive moisture (27 percent) (EWG, 2022). Payments for hail damage made up 7 percent of payouts (EWG, 2022). Changing climate conditions and an increase in the number of adverse weather events suggests this trend will continue. The high cost of farm losses due to drought and excess moisture similarly suggests that it would be more cost effective to take a different approach to risk management. The Intergovernmental Panel on Climate Change (IPCC) recommends, with high confidence, that resilience to climate change would be increased by using ecosystem based agricultural methods (IPCC, 2022).

### **Key problems that impact adoption of and efficacy of crop insurance (preliminary list; this will be improved after public comment)**

1. Farmer lack of knowledge about crop insurance
  - a. The Organic Farming Research Foundation 2022 national research agenda reports that one-third of organic farmer survey respondents list the need for technical support for crop insurance (Snyder et al., 2022).

2. Organic crop insurance is too expensive
  - a. When organic premiums are too high, adverse selection may cause the pool to become riskier. Eventually the insurance program becomes unsustainable (Belasco and Fuller, 2021).
  
3. Whole Farm Revenue Program (WFRP)
  - a. Previous qualitative work finds that farmers believe WFRP provides disincentives for incorporating crop diversity and new management practices, such as cover cropping on farms. As a result, crop insurance—which should be encourage farmers to become more resilient and diverse—is driving specialization, according to an organic producer (Looser et al. 2023).
  - b. WFRP insurance is not available for new and beginning producers.
  - c. Farmers seeking to expand their operations indicate that WFRP insurance does not work well.
  
4. Insufficient organic price information, including quality specification in insurance
  - a. Improving organic price data.
  - b. While contract price addendum is available, specifications need to be reexamined.
  - c. Organic crops would benefit from specific adjusting standards for their crops. For example, organic #1 food grade corn is adjusted on #5 feed grade conventional corn, which results in organic corn crops having a wide gap of uninsurable quality.
  
5. Organic specific t-yields are problematic for farmers without an actual organic production history.
  - a. Researchers have suggested using a producer’s conventional yields as the basis for insurance, rather than the t-yield (Delbridge and King, 2018).
  - b. Another suggestion is that organic producers use the t-yields they acquired during their transition time period for their organic t-yields.
  - c. What is the justification for organic farmers receiving new t-yields for transition and then restarting the process once the transition to organic is complete?

#### **Other questions**

1. Is the requirement for actuarial fairness reasonable? The initial impetus for crop insurance – in 1938 – was to provide farmers with social insurance, to help them cope with the ups and downs of farm production (Hamilton, 2021). It is interesting to note that, historically, farmers were much less interested in crop insurance than the policymakers were (Hamilton, 2021).

#### **Questions for organic stakeholders (these are the same questions from the beginning of this document.**

1. What has been your experience (or your members’ experience) with crop insurance?
2. What do you see as the most significant obstacle to organic farmer adoption of crop insurance?

3. What benefit do organic producers receive from crop insurance (on other words, what is working for them?)
4. What problems have farmers experienced with their crop insurance policies?
5. What recommendations would you make to improve the functioning of crop insurance for organic producers?
6. In your view, are there other, perhaps better, mechanisms for organic farmer risk mitigation?

Motion to accept the discussion document on Climate Induced Farming Risk and Crop Insurance

Motion by: Nate Powell-Palm

Seconded by: Kim Huseman

Yes: 6 No: 0 Abstain: 0 Recuse: 0 Absent: 2



## References

- Coppess, 2018. The Fault Lines of Farm Policy. A Legislative and Political History of the Farm Bill.
- Dimitri, C., 2010. Organic agriculture: an agrarian or industrial revolution?. *Agricultural and Resource Economics Review*, 39(3), pp.384-395.
- Environmental Working Group. 2022. EWG's Farm Subsidy Database. Crop Insurance in the United States. <https://farm.ewg.org/cropinsurance.php>.
- Hamilton, S. (2020). Crop Insurance and the New Deal Roots of Agricultural Financialization in the United States. *Enterprise & Society*, 21(3), 648-680. doi:10.1017/eso.2019.43
- Intergovernmental Panel on Climate Change. 2022. Climate Change 2022: Impacts, Adaptation and Vulnerability. Sixth Assessment Report. Available at: <https://www.ipcc.ch/report/sixth-assessment-report-working-group-ii/>
- Looser, A., C. Dimitri, L. Oberholtzer and A. Pressman. 2023. Organic farmer well-being. Manuscript.
- Morris, M., E. Belasco, and J. Schahczenski. 2019. Is Organic Farming Risky? Improving Crop Insurance for Organic Farms. NCAT.
- O'Donoghue E. 2014. The importance of federal crop insurance premium subsidies. Amber Waves. <https://www.ers.usda.gov/amber-waves/2014/october/the-importance-of-federal-crop-insurance-premium-subsidies/>
- Price, M.J., Yu, C.L., Hennessy, D.A. and Du, X., 2019. Are actuarial crop insurance rates fair?: an analysis using a penalized bivariate B-spline method. *Journal of the Royal Statistical Society: Series C (Applied Statistics)*, 68(5), pp.1207-1232
- Raszap Skorbiansky, Sharon, Gregory Astill, Stephanie Rosch, Elizabeth Higgins, Jennifer Ifft, and Bradley J. Rickard. September 2022. *Specialty Crop Participation in Federal Risk Management Programs*, EIB-241, U.S. Department of Agriculture, Economic Research Service.
- Risk Management Agency (RMA), USDA. 2022. Federal Crop Insurance Summary of Business for Organic Production. May. <https://www.rma.usda.gov/-/media/RMA/SOB-Reports/SOB->
- Snyder, L., M. Schonbeck, and T. Vélez. 2022. 2022 National Organic Research Agenda. Organic Farming Research Foundation. [https://ofrf.org/wp-content/uploads/2022/08/OFRF\\_National-Organic-Research-Agenda-NORA\\_2022-report-FINAL.pdf](https://ofrf.org/wp-content/uploads/2022/08/OFRF_National-Organic-Research-Agenda-NORA_2022-report-FINAL.pdf)
- USDA, Farm Service Agency. Undated. Disaster Assistance. [Noninsured Crop Disaster Assistance Program](#).
- USDA, NASS. 2022. 2021 [Certified Organic Survey](#).
- USDA, Risk Management Agency, undated. [What we do](#).