

REPORT

North Carolina Tax Advantaged Policies for Crop Gleaning



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Prepared for:



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Executive Summary

This paper explores data on gleaning from a public policy angle, with an emphasis on North Carolina. This analysis was conducted on behalf of the nonprofit gleaning organization, the Society of St. Andrew (SoSA), a national crop gleaning organization. SoSA organizes volunteers to harvest and transport crops to food providers, such as food banks or shelters.

Gleaning is a powerful tool to address food insecurity and waste. Gleaning is when farmers work with volunteers to rescue and donate crops left behind after the main harvest. If a farmer has crops they cannot sell, gleaning can both reduce food loss and help the less fortunate. Many farmers are motivated by the humanitarian component but are dissuaded by the logistical and coordination challenges.

Findings

- **Tax incentives have a mixed track record.** Public policy is an important factor for gleaning, acting as an incentive or a barrier. In practice, there is evidence that many tax incentives are ineffective. The federal government and numerous states offer tax incentives to farmers who glean in hopes of encouraging and subsidizing the practice. Farmers argue they are not large enough to make the paperwork worth it, while others are unaware of the incentives. If policymakers are interested in designing more effective incentives, they could increase the incentive size, shift from deductions to credits, and/or reduce the administrative burden, among other ideas.
- **Ambiguity and lack of awareness weaken the potential benefits of current legal protections for farmers.** Governments offer liability protections and exemptions to food safety laws. Congress has passed strong protections for farmers who glean. These protections are meant to alleviate farmers' concerns over the risks of gleaning. Yet many of these laws have potential gaps and ambiguous language. Thus, many farmers are still wary of allowing gleaners on their fields. The federal government has taken action in recent years

to update food donation laws, but there is still room for further reforms.

- **North Carolina's tax incentive (now repealed) was the smallest offered among States, and the least financially attractive for farmers.** NC implemented a tax credit in 1984 before the legislature repealed it in 2013. Comparatively few farmers took advantage of it, likely because the benefits were minor and not enough to overcome the filing burden or convince farmers who might otherwise glean. These same trends are seen in other states with tax incentives.
- **A wide range of more generous state tax-based incentives have or are being offered in several states. These incentives provide a backdrop for consideration of any new state tax credits or incentives for North Carolina.**

Recommendations for policy change to support gleaning

Policymakers have options to design strong economic incentives and bolster legal protections for farmers. A lack of currently existing quantitative data on the impact of gleaning incentives does not support evidence-based policy setting. More academic research analysis is needed. Similarly, the gleaning community has an opportunity to collaborate with academics, including legal and tax experts, to inform policy interventions that promote gleaning.

Two recommendations are as follows:

- **Policy Option #1: Design an effective state tax incentive for NC farmers and gleaned crops, with special emphasis on small and medium sized farmers.**
- **Policy Option #2: Adopt stronger and clearer legal protections for farmers and gleaners, and increase awareness of these policies.**

Introduction

Gleaning is a powerful tool to address two big issues: hunger and food loss.¹ The term describes the salvaging of crops left behind by farmers after their main harvest. Farmers engage in gleaning for many reasons. They may have perfectly edible crops that are not sold for various reasons: oversupply, crops that are too small, bruised crops, etc. Growers can work with gleaning organizations to deliver excess crops to needy people. In other cases, the products may be sent to a nonprofit ‘social supermarket,’ where the recipient pays a nominal price for the produce (Broad Leib, Ardura, Fink, Giguere, et al., 2020; Broad Leib & Sandson, 2019).

The gleaning process involves multiple parties:

- **Farmers:** provide the land and crops to be gleaned. In some cases, they harvest the crops and donate them to a nonprofit; in others, they work with gleaning organizations.
- **Gleaning organizations:** organize and provide volunteer labor and equipment to harvest excess crops. In some cases, they donate it directly to those in need or work with food assistance charities.
- **Food assistance charities (food banks, shelters, churches, etc.):** accept donations from farmers and gleaning organizations and distribute the produce to those in need.

The Society of St. Andrews (SoSA) is a major gleaning organization in NC. SoSA is a national nonprofit with a regional operation in the Carolinas. They organize volunteer labor to harvest and transport excess produce at no cost to farmers. In 2024, they gleaned over 5.5 million pounds of food, or over 22 million servings (*Carolinas Gleaning Network*, 2024).

Federal and state policymakers have taken steps to promote gleaning. The US government offers tax deductions to farmers who donate gleaned crops, and many states offer credits as well. Many

¹ In the literature on food waste and loss, researchers refer to “food loss” as food that does not reach the final consumer before retail. Food waste refers to products that retailers and consumers do with uneaten foods. See Minor et al. (2020) *Economic Drivers of Food Loss at the Farm and Pre-Retail Sectors: A Look at the Produce Supply Chain in the United States* ([usda.gov](https://www.usda.gov)).

farmers are concerned about the potential liability of donating less-than-perfect crops, so Congress has passed laws to waive liability for gleaned produce in all 50 states. Stringent food safety laws on farms require training for field labor but generally do not apply to gleaning volunteers to remove barriers to participation. Still, additional policy interventions could promote gleaning, such as designing better tax incentives and making legal protections for farmers stronger and clearer.

First, the methodology of the paper will be discussed. Then, through a literature review and tax data analysis, the paper will dive deeper into the two main policy avenues: 1) tax incentives; and 2) liability and food safety laws. There will also be brief discussions of other policies, such as nonprofit grants. It will conclude with takeaways for possible policymaking and future research. Overall, gleaning is a powerful tool to support our communities, and policy makers have options to design strong tax incentives and bolster legal protections for farmers.

Methodology

The main purpose of this paper is to investigate the barriers that hinder gleaning in NC and explore policy options that lift these barriers and encourage gleaning participation. Its methodology relies on a literature review and analysis of public tax data. Because of this paper’s NC focus and the established presence of gleaning organizations in the state, the bulk of the paper focuses on ways to increase participation from farmers. A wide range of policy options in the gleaning space support nonprofits. This paper will primarily focus on farmers, later discussing additional policies.

This paper is not intended to be an exhaustive guide on gleaning, tax policy, or agricultural/food law. Throughout the paper, there are citations and links to great resources from established experts go much further in-depth than this paper can. The paper is also qualitatively focused, as there is limited quantitative data in the field. The goal of this paper is to compile findings and takeaways from the literature and combine them with analysis to promote gleaning in NC.

What Policies are Most Relevant to Gleaning in North Carolina?

Throughout the literature, two types of policies with consistent support are most relevant to gleaning work in NC: tax incentives and liability/food safety laws.

Tax Incentives

Tax incentives to farmers who participate in gleaning is one tool that has been used to attempt to increase participation. While there is some evidence the approach has had success—after Congress expanded a tax deduction for food donation in 2005, food donations increased by 137% the next year—there is mixed evidence on its effectiveness (Broad Leib et al., 2016).²

Background

Gleaning tax incentives exist on federal and state levels as credits and deductions. Credits are more impactful than deductions—they directly decrease a farmer's tax bill directly, while deductions decrease a farmer's taxable income.³ The structures are often intricate, and the complexity

² This statistic has been included in multiple sources, including the one cited. Each of those sources cites back to one of multiple other sources: a statement in front of a House Ways and Means subcommittee, a press release from former Congressman Sandy Levin, or a press release from Feeding America. The link to each of these sources is dead, so this statistic cannot be completely confirmed, but because it is included in several papers, it is included here.

³ Deductions allow farmers to reduce their taxable income. For example, if a farmer has \$100,000 in taxable income, and takes a \$10,000 deduction, then they would only pay taxes on \$90,000 of their income. So, if the tax rate is 20%, a \$10,000 deduction would save the farmer \$2,000 on their tax bill. Credits allow farmers to decrease how much they pay in tax directly. If that same farmer has a \$20,000 tax bill and a \$5,000 credit, then the farmer only pays \$15,000 in taxes. An equal-size credit will reduce your tax bill more than a deduction.

⁶—North Carolina Gleaning Tax Advantages Policies

can prevent farmers from taking advantage of the incentives. The food law clinics at Harvard and the University of Arkansas have a thorough guide to the federal enhanced deduction (*Federal Enhanced Tax Deduction for Food Donation: A Legal Guide*, 2016). Harvard Law also has guides for about a dozen states ("State Specific Food Waste Fact Sheets," n.d.).⁴

Federal Policies

Federally, a general and an enhanced tax deduction support food donations.

- **General deduction:** applies to the donation of any goods. It allows farmers to deduct the basis cost of the donated produce (generally the cost of production, or 25% of the fair market value).⁵ Depending on the farm's corporate structure, they can deduct between 10-50% of their gross income at most.
- **Enhanced deduction:** specific to food donation and larger than the standard deduction. Farmers can deduct the lower of 1) two times the basis value or 2) the basis value plus half the expected profit margin at fair market value. Depending on the farm's corporate structure, they can generally deduct up to 15% of either their net or taxable income.

State Policies and Data

Starting in 1984, NC had a tax credit equal to 10% of a gleaned crop's market value (An Act to Provide an Income Tax Credit to Farmers Who Permit Their Crops to Be Gleaned, 1984). In 1991, the General Assembly added a requirement that individual taxpayers add the market value of the crop to their taxable income, making it an effective credit of only 1.75-4% (An Act to Eliminate a Taxpayer's Deduction for Certain Contributions of Land or Crops to Account for Tax Credits Allowed for the

⁴ Harvard/Arkansas Enhanced Deduction Guide: <https://chlpi.org/wp-content/uploads/2013/12/Food-Donation-Fed-Tax-Guide-for-Pub-2.pdf>
Harvard State Guides: <https://chlpi.org/project/state-specific-food-waste-fact-sheets/>

⁵ A good's 'basis cost' is generally the production cost. Smaller farms with fewer recordkeeping requirements can generally set this at 25% of the crop's fair market value. (*Tax Incentives and Food Donations for Gleaning Organizations*, 2023).

Same Contributions., 1991).⁶ The state legislature repealed the credit in 2013 as part of a larger tax code simplification and overhaul, effective tax year 2014 (Tax Simplification and Reduction Act, 2013).⁷

Currently, 10 states offer some form of tax incentive for food donation and gleaning, while one recently phased theirs out. The active credits range from 15-100% of the gleaned crop's value, and some states cap the maximum credit anywhere from \$1,000-10,000 a year. North Carolina's 10% rate made it the smallest out of all the states. Arizona has a deduction up to the full cost of the crop, while all other states offer credits.

Liability and Food Safety Laws

The legal system can act as both a major deterrent and incentive for farmers to participate in gleaning. The US has strong liability protections for farmers who participate in gleaning, and there are federal exemptions in food safety laws for gleaning. Yet farmers perceive ambiguity in these protections, and many remain concerned about legal repercussions. Strong legal protections can ease farmers' concerns and increase participation in gleaning.

Background

Regarding food donations, liability protections absolve farmers of liability when they glean. However, legal complexities can worry farmers and prevent them from gleaning. The Food Law Clinic at Harvard has published a comprehensive legal guide on food donations, including discussions

⁶ From 1991 to 2013, NC income tax rates ranged from 6-8.25% (Sawyers, n.d.; *Tax Rate Schedule for Tax Years 2011-2013*, n.d.). If a farmer donates gleaned crops with a value of \$5,000, then they would receive a \$500 credit. However, they would also have to add that \$5,000 to their taxable income at the margin, paying \$300-412.50 in taxes, meaning the credit was effectively \$87.50-200.00, or 1.75-4%, depending on which tax bracket they fell in. This requirement did not seem to apply to farmers who file taxes as a corporation, however most farmers who claimed the credit filed as individuals.

⁷ The legislature repealed about a dozen other credits, including other agriculture-related credits, while lowering overall corporate and individual income tax rates.

of liability, food safety, and more at the federal, state, and local levels (Broad Leib, Ardura, Fink, Hartman, et al., 2020). The Arkansas School of Law has published a thorough guide specifically on the Bill Emerson Act (Haley, 2013). There is also a fact sheet on the Bill Emerson Act and about a dozen state law guides from Harvard Law (*Federal Liability Protection for Food Donation: Legal Fact Sheet*, 2023; "State Specific Food Waste Fact Sheets," n.d.).⁸

Liability Protections

The Bill Emerson Good Samaritan Food Donation Act (Emerson Act), a federal law, provides clear protections to farmers and organizations in all 50 states. Primarily, it exempts all gleaning parties from "civil or criminal liability arising from... **apparently wholesome food**... donate[d] in good faith to a **nonprofit organization**..." It also exempts farmers from "civil or criminal liability that arises due to the injury or death of the gleaner," among other provisions (*42 U.S. Code § 1791 - Bill Emerson Good Samaritan Food Donation Act*, n.d.). States are also free to pass liability laws of their own. NC has the Immunity for Donated Food law which protects farmers and nonprofits from liability arising from donated crops, but it does not extend protections further than the Emerson Act (Immunity for Donated Food, 1979).

Food Safety Laws and Protections

The 2011 federal Food Safety Modernization Act (FSMA) tasked the US Food and Drug Administration (FDA) with creating sweeping regulations for food safety standards on farms. It includes many requirements for worker training, which gleaning volunteers may not have gone through (Broad Leib & Sandson, 2019). The FDA does exempt 'farms' with less than \$25,000 in annual sales and currently considers gleaning organizations to be their own 'farm,' separate from the actual farm they are working on. So if

⁸ Harvard Legal Guide: <https://www.foodbanking.org/wp-content/uploads/2023/01/USA-Legal-Guide.pdf>
Arkansas Emerson Guide: <https://law.uark.edu/service-outreach/food-recovery-project/Legal-Guide-to-the-BEA-Haley-Final.pdf>

Harvard Emerson Fact Sheet: <https://chlp.org/wp-content/uploads/2013/12/Emerson-Act-Legal-Fact-Sheet.pdf>

Harvard State Guides: <https://chlp.org/project/state-specific-food-waste-fact-sheets/>

a gleaning organization has less than \$25,000 in annual sales (very likely if they donate food for free), they should be exempt from FSMA requirements.

The rules are unclear for USDA Good Agricultural Practices (GAPs) certification farmers. This voluntary program certifies farmers who exceed FSMA standards. This program generally requires both “employees and visitors” to adhere to its standards without any exemptions (Johnson et al., 2019; Maughan et al., 2016). GAP-certification can cost north of \$300 per acre (ranging between \$40 and \$900) and create an extra 7 hours per week of work during growing seasons (Becot et al., 2012; Schmit et al., 2020). Thus, GAPs certified farms are likely unable to invite gleaners without rigorous training and risk their certification.

What Other Policy Avenues Exist?

While tax incentives and legal protections are the two most pressing policy debates for NC, other interventions were promoted throughout the literature, including nonprofit grants and other more unique programs like Farm to School or Produce Prescription (Rx).

Grants

Logistics can be a major barrier to gleaning. It is difficult for farmers to provide their own labor or transportation for a project that will likely be revenue-neutral (at best). That is why a strong nonprofit organization can be crucial to gleaning operations. The Society of Saint Andrews in NC attempts to make gleaning more accessible to farmers in the state. However, many areas of the county lack the same presence, and many gleaning nonprofits have stretched budgets (Chiarella et al., 2023; *Farmers Feeding Florida*, n.d.; Lee et al., 2017; Powers & Snow, n.d.). In these cases, grants to gleaning nonprofits can be a powerful intervention to support the practice, allowing them to purchase necessary equipment, recruit volunteers, and employ professional staff. Gleaning organizations can also use these grants to purchase discounted crops from farmers, making the process more appealing to farmers. Grants can be an attractive policy in places with budget-strapped nonprofits

and places that struggle to recruit volunteers; however, incentives for farmers would be a better use of public funds in areas where low farmer participation is a bigger issue (such as NC).

Unique Programs

A few other innovative ideas appear in the literature. Farm-to-School programs connect farmers, gleaners, and local schools to create a stable source for produce donations in areas where food banks may not have capacity (Soma et al., 2021). NC has a Farm-to-School program, but it uses federal funds to allow school districts to purchase produce from local farms and does not include gleaning (*NC Farm to School Program*, n.d.). Others have promoted Food Rx programs, where doctors ‘prescribe’ fresh produce to patients and give it to them on the spot, allowing them to access free gleaned produce without extra trips (Stroud & Sastre, 2023). This can help promote good public health and address areas with lower food bank capacity.

Findings from the Literature

The findings section is divided into two subsections: 1) Findings from the literature; and 2) Findings from an analysis of tax data.

The existing research into gleaning has relied on surveys and interviews with gleaning stakeholders, legal analyses, and expert commentaries. Its conclusions include the following:

Tax Incentives Have a Mixed Track Record

Operational costs—such as labor, equipment, and transportation—can be a barrier that prevents farmers from gleaning. If a farmer is not going to make money off an unmarketable crop, they will be hesitant to spend more time and/or money to coordinate with a gleaning organization or harvest the crops themselves. Therefore, tax incentives for farmers to glean can help them offset these costs. In one study from the Kansas City area, interviewed farmers cited tax incentives as a

primary reason they could offer their crops for gleaning (Harvey et al., 2022).

However, other studies find less support for gleaning. Farmers argue that tax incentives do not do enough to promote the practice. Among the considerations:

- Farmers cite logistical hurdles (such as labor, communication with nonprofits, and transportation) as key barriers to gleaning, which tax incentives do not directly address, and their benefits are not large enough to make worthwhile (Evans & Nagele, 2018).
- This point is especially true for farms in areas without a strong gleaning organization presence (Van Zuiden, 2012).
- Farmers also worry about the risks of gleaning, such as having outsiders working on their property (Johnson et al., 2019).
- For farms with already slim profit margins, deductions do little to decrease their tax burden (Broad Leib & Rice, 2017; Gunders, 2012).
- Other farmers choose to participate in gleaning for humanitarian reasons, giving less weight to financial consideration (Schulteis et al., 2023).
- Nearly all farmers seem to cite the paperwork burden of trying to claim these tax incentives (Evans & Nagele, 2018; Kinach et al., 2020; Lott et al., 2020; Soma et al., 2021).⁹

Data from states with tax credits largely backs up this assessment—which be explored further later in the paper. There is generally a small number of farmers who claim the credits, and those who do receive a relatively small tax benefit.

Ambiguity and Lack of Awareness Weaken the Potential Benefits of Current Legal Protections for Farmers

While the Emerson Act is clear with its protections, some potential ambiguities remain.

- Language in the law such as “apparently wholesome food,” “gross negligence,” or “good

faith” can be unclear, especially to someone without a legal background (Broad Leib & Sandson, 2019).

- The bill and its potential ambiguities have never been challenged or tested in court. It is without legal precedent. (Broad Leib & Sandson, 2019; Leasure-Earnhardt et al., 2017).
- The bill itself does not explicitly state that it preempts state liability laws, although legal experts, the Congressional Budget Office, and the Department of Justice agree that it has preemptive power (Haley, 2013; Johnsen, 1997)
- The idea that the Act can supersede state laws is based partly on the Congressional Budget Office and a 1997 DoJ legal memorandum (Haley, 2013; Johnsen, 1997).
- The Act also does not supersede local or state health laws, certain protections could vary by county or city (Haley, 2013; Leasure-Earnhardt et al., 2017).
- The bill mandates that farmers include typically required food labels (net weight, nutrition facts, etc.). The USDA has granted certain exemptions for some products (wholesome meat and poultry).
- The law does not explicitly protect food that is past its “sell-by” date but is still perfectly edible, although a House Committee report accompanying the Act acknowledges that this “would not necessarily” violate the Act (Broad Leib, Ardura, Fink, Giguere, et al., 2020)
- It is unclear if they are able to donate food that is past its “sell-by” date but is still perfectly edible (Broad Leib, Ardura, Fink, Giguere, et al., 2020).
- Beyond ambiguities, many farmers are simply unaware of these protections (Broad Leib, Ardura, Fink, Giguere, et al., 2020; Broad Leib & Sandson, 2019; Haley, 2013; Johnson et al., 2019).

Similarly, FSMA does seem clear with its exemption for gleaners, but there are still potential ambiguities. First, the act does not explicitly mention or exempt gleaners but rather exempts them through the low-income provision (Broad Leib & Sandson, 2019). Second, the logic that gleaners are considered their own ‘farm’ for the purposes of this exemption is not included in the law itself but comes from an FDA response to a public comment on the question (Standards for the Growing, Harvesting, Packing, and Holding of Produce for Human Consumption, 2015).

⁹ Kinach et al. and Soma et al. are both Canadian sources, but they can still speak to the difficulties of tax-based incentives in general.

Different state and local governments in the US also have constantly evolving food safety laws, making it difficult to broadly claim that farmers are okay to allow gleaning on their property (Chiarella et al., 2023). Very few states and localities have specific policies or exemptions for food donation because most states follow the FDA Food Code, which, until very recently, lacked language on food donations (Broad Leib & Sandson, 2019). Overall, ambiguities in the law, combined with a lack of awareness of protections, are a powerful force stymieing gleaning operations (Broad Leib & Sandson, 2019; Chiarella et al., 2023; Johnson et al., 2019). At the end of the day, any ambiguity or lack of awareness can be enough to dissuade a farmer from allowing gleaners on their fields because it's their livelihood at stake.

Tax Data Analysis

Existing Incentives

There are currently 10 states that offer a tax incentive for food donations, with NC recently phasing its out. Table 1 provides a summary.

Table 1: State Tax Incentives for Gleaning

(Agriculture and Farming Credits, n.d.; Credit for Gleaned Crop, 1983; *Tax Incentives and Food Donations for Gleaning Organizations*, 2023; *Updated Tax Credits and Expansion to Certifications Offer Maryland Farmers New Resources*, 2023)

State	Type	Amount	Annual Cap	Status
North Carolina	Credit	10% of crop market price		Repealed in 2013
Arizona	Deduction	100% greater of wholesale price or most recent sale price		Active
California	Credit	15% of crop wholesale price, 50% of transportation cost		Active
Colorado	Credit	25% of crop wholesale market price	See footnote	Repealed, see footnote ¹⁰
Iowa	Credit	15% of crop fair market value	\$5,000	Active
Maryland	Credit	100% of crop wholesale value	\$5,000 ¹¹	Active
Missouri	Credit	50% of crop value	\$2,500	Active
New York	Credit	25% of crop fair market value	\$5,000	Active
Oregon	Credit	15% of wholesale market price		Active
Pennsylvania	Credit	55% of crop value		Active
Virginia	Credit	50% of crop value	\$10,000 statewide cap of \$250,000	Active
West Virginia	Credit	30% of crop fair market value	\$5,000	Active

10 Colorado had two applicable tax credits: a "Crop and livestock contribution credit" and a "Food contributed to hunger relief charitable organizations credit." Both were set at 25%. The former had a cap of \$1,000, expired in 2023, and was only available to corporations. The latter had a cap of \$5,000, expired in 2020, and was available to all taxpayers. Both had similar requirements, but the former excluded products like eggs and milk (Hunger Relief Income Tax Credit & Crop and Livestock Contribution Corporate Income Tax Credit, 2018).

11 At the discretion of the MD Secretary of Agriculture, this can be raised to \$10,000 (Updated Tax Credits and Expansion to Certifications Offer Maryland Farmers New Resources, 2023).

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There is wide variation in these incentives. The active credits range from 15-100% of the crop's value, and some states cap their total credit at \$1,000-10,000 a year. Arizona has a deduction up to the full cost of the crop, while all other states offer credits. NC's 10% rate made it the smallest out of all the states, and its effective value of 1.75-4% for individual filers made it even less valuable.

Data from NC

Figure 1: NC Gleaning Tax Credit: Number of Individual Claims

Note: 2003 is not to scale (Gleaned Crop Tax Credits TYs 2003-2013 IIT.Xlsx, n.d.).

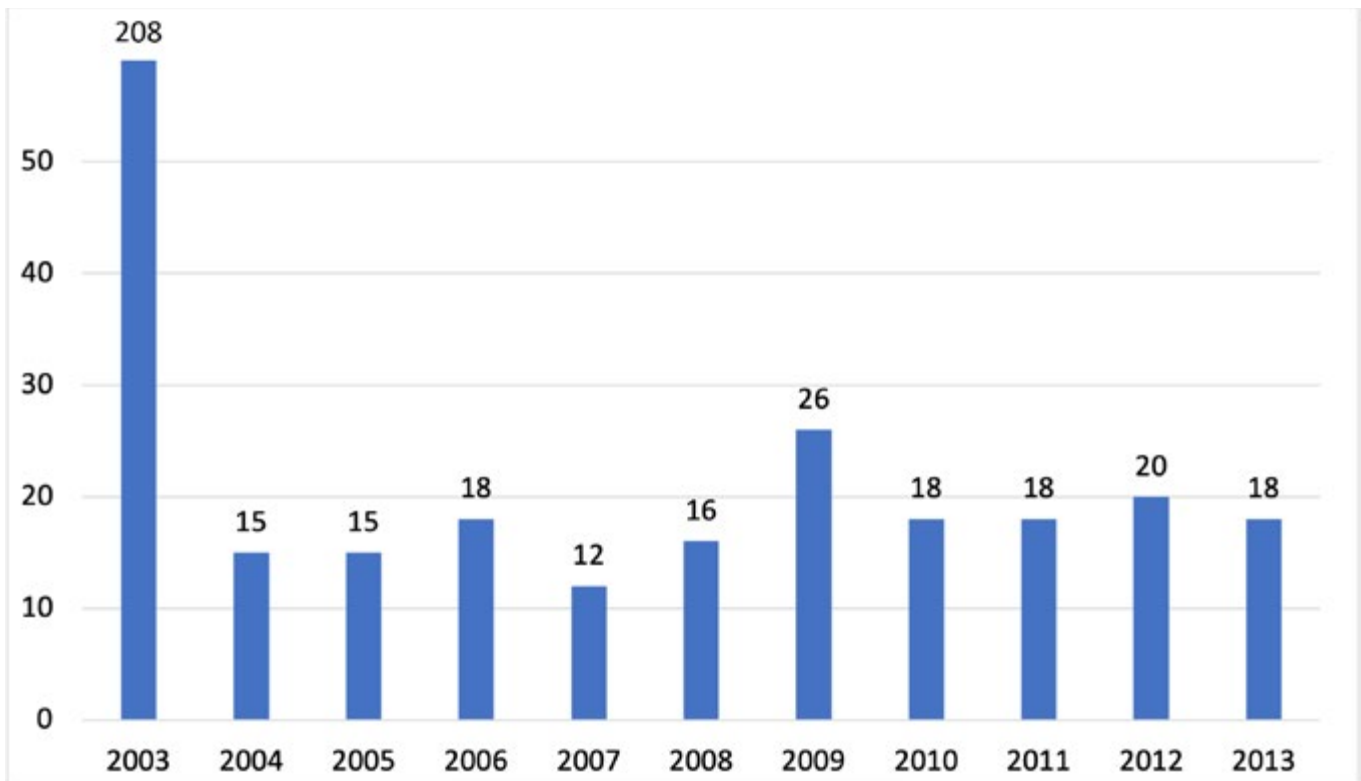
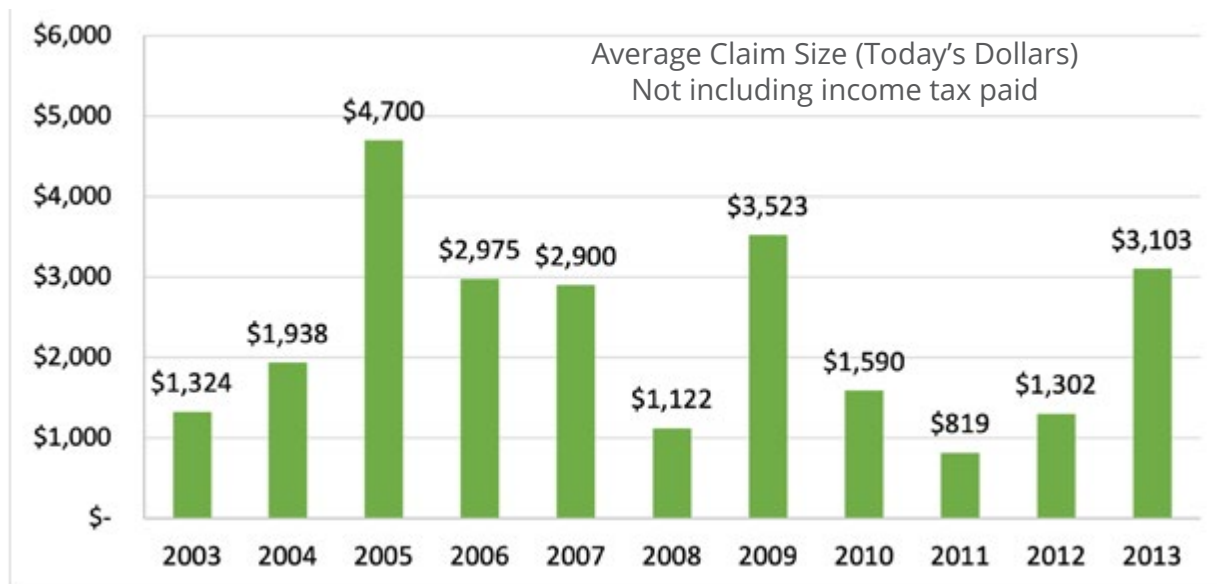


Figure 2: NC Gleaning Tax Credit: Real Average Claim Amount (\$)

Note: these values do not include the added income tax farmers would have to pay, meaning the actual benefits were only 17.5-40% of the totals above (Gleaned Crop Tax Credits TYs 2003-2013 IIT.Xlsx, n.d.; U.S. Bureau of Labor Statistics, 2024).¹²



Throughout the decade that data is available for the NC credit, farmers utilized it sparingly. On average, farmers who claimed it received around \$2,000 in credits. After factoring in the added income tax, individual farmers only got about \$350-800 in net benefits. Thus, only about a dozen or two farmers claimed it each year in a state that had over 50,000 farms in 2012 (2012 Census of Agriculture - State Data, 2012). Among farmers who did glean, the filing burden probably outweighed the minor tax benefits. Either the farmer would need to take their own time to file it or pay an outside preparer. For farmers who didn't already glean, the credit probably was not large enough to convince them. However, there are some limitations to this data—it is likely an undercount, and 2003 is a notable outlier.¹³ The complete data set is available in Appendix A.

For context, SoSA gleaned 22,680,524 servings of food in 2023 in the Carolinas (*Carolinas Gleaning Network*, 2024). The credit supported around \$550,000 worth of food donations in its most recent year. With this data, a very rough approximation is that less than 3% of gleaning donations in NC were claimed under the credit.¹⁴ For further context, SoSA worked with 181 different farms and food providers in 2022, yet just a dozen or two farmers were claiming the credit when it was active (2022 Carolinas Impact Summary, 2022).

¹² All numbers in 2022 dollars, based on the [Producer Price Index for Farm Products](#).

¹³ For limitations, this data only includes farmers who file their taxes as individuals, not corporations. However, NC DOR did not release corporate data because fewer than ten corporations claimed the credit, meaning it is likely a small amount. Second, on NC Tax forms, the gleaning credit line was lumped in with five other credits, so if a taxpayer claimed the gleaning credit, plus an additional credit, it was not included in this data set because it would be impossible to isolate. See Appendix A and B for further information. It is unclear why the data was so much higher in 2003. There were no apparent legislative or administrative changes to the credit or large economic shifts. It may have been a data entry error by the NC DOR, which is possible because of the layout of the tax form used to claim the credit. See Appendix B.

¹⁴ This is a very rough approximation, but it highlights the scale of the credit. $550,000 / 22,680,524 \approx 2.42\%$. This assumes that the vast majority of gleaning activity in NC went through SoSA, and that the vast majority of SoSA's activity in the Carolinas was in NC. It assumes each serving is worth \$1 and compares 2013 tax data (in 2022 dollars) and 2023 gleaning activity.

Data from Other States

Table 2: Selected State Tax Incentive Data¹⁵

(2020 Tax Profile & Expenditure Report, 2020; 2023-25 Tax Expenditure Report, 2023; Donated Fresh Fruit or Vegetables Credit Report, 2023; Iowa Tax Expenditures Study 2020 (Excel), 2020; New York State Corporate Tax Credit Utilization: Beginning Tax Year 2001, 2020)

State	# of Claims	Total Claims (\$)	Average Claim (\$)	Year	Notes
California	657	\$4,006,175	\$3,842	2020	Data from 2020, 2021, and 2022 respectively. This data is only for the crop credit, not the transportation credit.
	836	\$1,901,548	\$1,797	2021	
	436	\$355,060	\$814	2022	
Colorado	231	\$88,023	\$381	2015	Data is for the “Hunger” credit. The “Crop and Livestock” credit was \$0 or too low to release each year. See footnote 10.
	87	\$39,584	\$455	2017	
	n/a	\$13,943	n/a	2020	
Iowa	“Minimal”	“Minimal”	n/a	2020	Values were so low that the state did not release specific data.
New York	3	\$6,832	\$2,227	2020	Credit debuted in 2018. There were no claims until 2020.
Oregon	100	n/a	\$3,660	2018	Number and average claim data is released over a one-year period. Total claims are over a two-year period.
	70	n/a	\$2,635	2020	
	n/a	\$500,000	n/a	2019-21	
	n/a	\$400,000 ¹⁶	n/a	2021-23	

The data from other states generally seems in line with NC: relatively low usage and benefits. All of these states have higher credit rates than NC, so some have been more beneficial to the farmers who claimed them. Oregon and California seem to have had the most success. California is both the largest state and the top agriculture-producing state in the country, and thus will likely have much higher numbers (FAQs, 2022). Even with a 25% credit rate there, the average claim size was still only \$814 in 2022. It is unclear why Oregon has had somewhat more success. They do have a 15% credit and no annual cap. The Colorado credit applied to all food donations, not just those from farmers, which explains its higher usage (2023-25 Tax Expenditure Report, 2023).

¹⁵ Data was not readily available for Arizona, Maryland, Missouri, Pennsylvania, Virginia, or West Virginia. All numbers in 2022 dollars, based on the [Producer Price Index for Farm Products](#).

¹⁶ This is the rounded value of individual claims from the OR DOR. There were “Less than \$100,000” from corporations (2023-25 Tax Expenditure Report, 2023).

Conclusion

Policy Option #1: Designing an Effective Tax Incentive

Most reports and experts seem to agree with the principle of tax incentives, and they recognize their current shortfalls. Most offer ideas of how to design these tax incentives differently to be more effective at promoting gleaning if advocates and policymakers are interested in pursuing them further.

- A clear solution is to increase the size of the benefit, making it more attractive to farmers (Johnson et al., 2019; Lee et al., 2017; *ReFED | Rethink Food Waste*, n.d.).
- Shifting from a federal deduction to a credit can also achieve the same goal (Broad Leib & Rice, 2017; Gunders, 2012).
- At the very least, policymakers should consider allowing lower-income farms to claim a tax credit for gleaning (Sandson, 2019).
- Other researchers promote simplifying the methods to claim the incentive (Johnson et al., 2019; Kinach et al., 2020).
- Allowing farmers to write off not just the cost of the crop but also the cost of transportation and other operations can be a powerful reform (Broad Leib, Ardura, Fink, Giguere, et al., 2020).
- Removing limits from state tax incentives could also push farmers to increase their gleaning efforts further (Broad Leib et al., 2016).

If policymakers are interested in promoting gleaning, these are some potential steps to design better tax incentives. Any incentive will lead to some increase in gleaning. Even if it lacks a perfect design or cannot win over every farmer, it could still be worthwhile for lawmakers to work towards implementing these policies.

Policy Option #2: Adopting Stronger and Clearer Legal Protections for Farmers and Gleaners and Increasing Awareness of These Policies

In January 2023, President Biden signed an amendment to the Emerson Act that allows donors to sell gleaned produce at a discounted price and allows them to donate directly to those in need (no longer needing to donate to a nonprofit). Congress introduced the bill and unanimously passed it in just one month (*S.5329 - A Bill to Amend the Bill Emerson Good Samaritan Food Donation Act to Improve the Program, and for Other Purposes.*, 2023). This speed and consensus indicate that Congress sees this as an important issue. An earlier version of this bill mandated that the USDA issue regulations to clarify food labeling and quality standards for Emerson Act eligibility, however, Congress struck this from the final version (*H.R.6251 - Food Donation Improvement Act of 2021*, 2021).

Additionally, the 2018 Farm Bill created a Food Loss and Waste Reduction Liaison in the USDA, who is specifically tasked with “rais[ing] awareness of the liability protections afforded under the Bill Emerson... Act,” as well as researching, promoting, and recommending policies to reduce food loss and waste (H.R.2 - Agriculture Improvement Act of 2018, 2018). In response to the bill, the department and the current liaison, Jean Buzby, have begun taking steps to address this mandate.

- Published an FAQ and blog post clarifying certain aspects of the Emerson Act (Buzby, 2020; United States Department of Agriculture, n.d.)
- Liaison outreach through interviews, webinars, seminars, and podcasts (Edwards, 2023; Paparo, 2021; USDA AMS, 2021; Wilson et al., n.d.)

The FDA also added language on food donation in their 2022 update of the FDA Food Code. It encourages food donation and clarifies that food donations can comply with food safety laws as long as it is “stored,

prepared, packaged, displayed, and labeled” in accordance with the law (2022 Food Code, 2023). The Food Code regulates restaurants and retail establishments (not farms), but this inclusion can encourage more states to adopt protections of their own. States are slow to adopt new versions of the code, though, as only two have adopted the 2022 version. NC uses the 2017 version, and the majority of states use versions at least a decade old (Adoption of the FDA Food Code by State and Territorial Agencies Responsible for the Oversight of Restaurants and Retail Food Stores, 2023).

The literature supports these recently passed policies. Many sources supported allowing direct donations to needy individuals (Broad Leib, Ardura, Fink, Giguere, et al., 2020; Broad Leib et al., 2016; Broad Leib & Sandson, 2019). The literature also supported allowing farmers to sell goods at a discounted price (Broad Leib, Ardura, Fink, Giguere, et al., 2020; Broad Leib & Sandson, 2019). Many support general calls to increase awareness of legal protections (Broad Leib, Ardura, Fink, Giguere, et al., 2020; Broad Leib & Sandson, 2019).

There is still more room for policy change in the legal sphere to protect gleaners.

- Congress could push the USDA to continue to answer further public questions and clarify ambiguities in the Emerson Act (Broad Leib, Ardura, Fink, Giguere, et al., 2020).
- Policymakers can clarify that farmers are not required to include non-essential food labels (like net weight) on donated goods, which can relieve some of the burdens of donating (Broad Leib, Ardura, Fink, Giguere, et al., 2020).
- Policymakers can also make it clear that farmers can donate foods past a “sell-by” date as long as it’s still safe for consumption because these labels are generally used to indicate freshness, not edibility (Broad Leib, Ardura, Fink, Giguere, et al., 2020).
- Congress can amend FSMA to explicitly exempt gleaners

NC could pass these same reforms. Policy at the federal level generally has more power and applies nationwide, but there is still room for the state to act. The state can adopt the 2022 version of the FDA Food Code and encourage localities to extend protections to farmers and gleaners.

Looking Forward

NC and the greater United States stand to benefit from public policy that can further increase gleaning to fight both hunger and food waste in our country. If lawmakers are interested in promoting gleaning, a well-designed tax incentive can be a powerful tool. In NC, policy makers would likely have to commit to a much larger tax credit than the former—which had an effective rate of just 1.75-4% for individuals—to incentivize farmers to overcome the barriers to gleaning and to filling itself. Policymakers can also expand and clarify liability protections to protect farmers who donate food to needy individuals in their community.

The academic community also has an important role to play. Further research is needed to allow lawmakers to design better policies. The lack of rigorous quantitative research in the space is notable. Besides food donations increasing by 137% the year after Congress expanded the federal deduction, we know of no hard data on the impact of gleaning tax incentives in a way that many other economic policies are studied. With the new USDA Food Loss and Waste Reduction Liaison, it would be great to see further awareness campaigns and research on their effectiveness. If academics can better understand who farmers trust, and where they get information from, these campaigns could be made that much more impactful. The gleaning community should continue collaborating with tax and legal experts, who can provide insights into intricate fields.

Gleaning is a powerful tool, and our communities can be better off when we participate. The more policy options we make available for lawmakers, the more we can help our neighbors in need.

Appendix A: Complete Data on NC Gleaning Tax Credit

Year	# of Claims	Total Claim Amount	Real Total Claim Amount	Average Claim Amount	Real Avg. Claim Amount	Donation \$ Supported	Real Donation \$ Supported
2003	208	\$122,490	\$275,451.06	\$588.89	\$1,324.28	\$1,224,900	\$2,754,510.57
2004	15	\$14,295	\$29,077.09	\$953.00	\$1,938.47	\$142,950	\$290,770.94
2005	15	\$33,317	\$70,495.65	\$2,211.13	\$4,699.71	\$333,170	\$704,956.53
2006	18	\$24,994	\$53,547.82	\$1,388.56	\$2,974.88	\$249,940	\$535,478.16
2007	12	\$19,900	\$34,798.35	\$1,658.33	\$2,899.86	\$199,000	\$347,983.50
2008	16	\$11,554	\$17,957.74	\$722.13	\$1,122.36	\$115,540	\$179,577.44
2009	26	\$49,176	\$91,592.92	\$1,891.38	\$3,522.80	\$491,760	\$915,929.19
2010	18	\$17,232	\$28,619.12	\$957.33	\$1,589.95	\$172,320	\$286,191.22
2011	18	\$10,974	\$14,736.48	\$609.67	\$818.69	\$109,740	\$147,364.82
2012	20	\$19,991	\$26,037.25	\$999.55	\$1,301.86	\$199,910	\$260,372.51
2013	18	\$43,506	\$55,851.87	\$2,417.00	\$3,102.88	\$435,060	\$558,518.72

(Gleaned Crop Tax Credits TYs 2003-2013 IIT.Xlsx, n.d.; U.S. Bureau of Labor Statistics, 2024)

All real statistics are in 2022 dollars. There are some limitations to this data. First, it only includes farmers who file their taxes as individuals, not corporations. However, NC DOR did not release corporate data because fewer than ten corporations claimed the credit each year, meaning it is likely a small amount. Second, on NC Tax forms, the gleaning credit line was lumped in with five other credits (see Appendix B), so if a taxpayer claimed the gleaning credit, plus an additional credit, it was not included in this data set because it would be impossible to isolate.

Appendix B: Excerpt of 2013 NC Tax Form D-400

Page 2 Last Name (First 10 Characters) Tax Year 2013 Your Social Security Number
 D-400TC Web 9-13

Part 4. Other Tax Credits (Limited to the amount of tax) (continued)

21. Credit for long-term care insurance premiums (Complete the **Worksheet for Determining Tax Credit for Premiums Paid on Long-term Care Insurance Contracts** on Page 19 of the instructions.) Do not enter more than \$350 per contract. ▶ 21. _____ .00

22. Credit for adoption expenses (Complete the **Adoption Tax Credit Worksheet** on Page 19 of the instructions.) ▶ 22. _____ .00

23. Credit for children with disabilities who require special education (See instructions on Page 19.) Number of eligible dependent children ▶ _____ ▶ 23. _____ .00

24. Credit for Qualified Business Investments (See instructions on Page 19. You must attach a copy of the tax credit approval letter that you received from the Department of Revenue.) ▶ 24. _____ .00

25. Credit for disabled taxpayer, dependent, or spouse (Complete **Form D-429, Worksheet for Determining the Credit for the Disabled Taxpayer, Dependent, or Spouse**, and enter the amount from Line 13 or 14, whichever is applicable.) ▶ 25. _____ .00

26. Credit for certain real property land donations (See instructions on Page 20.) ▶ 26. _____ .00

27. Enter expenditures and expenses on Lines 27a, 28a, 29a, and 30a only in the first year the credit is taken. Credit for rehabilitating an **income-producing** historic structure (See instructions on Page 20.) Enter qualified rehabilitation expenditures ▶ 27a. _____ .00 Enter installment amount of credit ▶ 27b. _____ .00


28. Credit for rehabilitating a **nonincome-producing** historic structure (See instructions on Page 20.) Enter rehabilitation expenses ▶ 28a. _____ .00 Enter installment amount of credit ▶ 28b. _____ .00

29. Credit for rehabilitating an **income-producing** historic mill facility (See instructions on Page 20.) Enter qualified rehabilitation expenditures ▶ 29a. _____ .00 Enter amount of credit ▶ 29b. _____ .00

30. Credit for rehabilitating a **nonincome-producing** historic mill facility (See instructions on Page 20.) Enter rehabilitation expenses ▶ 30a. _____ .00 Enter installment amount of credit ▶ 30b. _____ .00

31. Other miscellaneous income tax credits (See instructions on Page 20.)
 Fill in applicable circles:
 Property Taxes on Farm Machinery Gleaned Crops
 Handicapped Dwelling Units Poultry Composting
 Conservation Tillage Equipment Recycling Oyster Shells

▶ 31. _____ .00

32. Tax credits carried over from previous year, if any. Do not include any carryover of tax credits claimed on Form NC-478.  ▶ 32. _____ .00

(NC Form D-400, 2013)

See line 31. The Gleaned Crops tax credit is lumped in with five other credits, meaning that if a farmer claims multiple of the above credits, the NC DOR is unable to isolate how much of the claim was specific to Gleaned Crops for data purposes.

References

- 42 U.S. Code § 1791—*Bill Emerson Good Samaritan Food Donation Act*. (n.d.). LII / Legal Information Institute. Retrieved November 29, 2023, from <https://www.law.cornell.edu/uscode/text/42/1791>
- 2012 *Census of Agriculture—State Data*. (2012). USDA, National Agricultural Statistics Service. https://agcensus.library.cornell.edu/wp-content/uploads/2012-North_Carolina-st37_1_001_001.pdf
- 2020 *Tax Profile & Expenditure Report*. (2020). Colorado Department of Revenue. <https://drive.google.com/file/d/1jaDRJGE7FFUbsuBzTu95F4mJ5WuZFxwt/view>
- 2022 *Carolinas Impact Summary*. (2022). Society of St. Andrew. https://endhunger.org/docs_regions/NC-Impact.pdf
- 2022 *Food Code*. (2023). U.S Food and Drug Administration. <https://www.fda.gov/food/fda-food-code/food-code-2022>
- 2023-25 *Tax Expenditure Report*. (2023). Oregon Department of Revenue. https://www.oregon.gov/dor/programs/gov-research/Documents/te2325_web.pdf
- Adoption of the FDA Food Code by State and Territorial Agencies Responsible for the Oversight of Restaurants and Retail Food Stores*. (2023). U.S. Food and Drug Administration. <https://www.fda.gov/food/fda-food-code/adoption-fda-food-code-state-and-territorial-agencies-responsible-oversight-restaurants-and-retail>
- Agriculture and Farming Credits*. (n.d.). Virginia Tax. Retrieved January 18, 2024, from <https://www.tax.virginia.gov/agriculture-and-farming-credits>
- An Act to Eliminate a Taxpayer's Deduction for Certain Contributions of Land or Crops to Account for Tax Credits Allowed for the Same Contributions., Pub. L. No. SL 1991-453, S104 (1991). <https://www.ncleg.gov/Sessions/1991/Bills/Senate/PDF/S104v2.pdf>
- An Act to Provide an Income Tax Credit to Farmers Who Permit Their Crops to Be Gleaned, Pub. L. No. S.L. 1983-1018, H1099 (1984). <https://www.ncleg.net/enactedlegislation/sessionlaws/html/1983-1984/sl1983-1018.html>
- Becot, F. A., Nickerson, V., Conner, D. S., & Kolodinsky, J. M. (2012). Costs of Food Safety Certification on Fresh Produce Farms in Vermont. *HortTechnology*, 22(5), 705–714. <https://doi.org/10.21273/HORTTECH.22.5.705>
- Broad Leib, E., Ardura, A., Fink, B., Giguere, M., Hartman, M., & Spiegler, R. (2020). *United States: Recommendations for Food Donation Law and Policy*. The Global Food Donation Policy Atlas. <https://www.foodbanking.org/wp-content/uploads/2023/01/US-Recommendations.pdf>

- Broad Leib, E., Ardura, A., Fink, B., Hartman, M., Giguere, M., & Spiegler, R. (2020). *United States Legal Guide: Food Donation Law and Policy*. Harvard Law School Food Law and Policy Clinic and The Global Food Banking Network. <https://www.foodbanking.org/wp-content/uploads/2023/01/USA-Legal-Guide.pdf>
- Broad Leib, E., & Rice, C. (2017). <https://www.nrdc.org/sites/default/files/dont-waste-donate-report.pdf>. Harvard Law School Food Law and Policy Clinic and the Natural Resources Defense Council. <https://www.nrdc.org/sites/default/files/dont-waste-donate-report.pdf>
- Broad Leib, E., Rice, C., Balkus, O., & Mahoney, J. (2016). *Keeping Food Out of the Landfill: Policy Ideas for States and Localities*. Harvard Law School Food Law and Policy Clinic. https://chlpi.org/wp-content/uploads/2013/12/Food-Waste-Toolkit_Oct-2016_smaller.pdf
- Broad Leib, E., & Sandson, K. (2019). The role of policy in addressing food loss. In T. M. Mishra Suzanne Thornsbury, Ashok K. (Ed.), *The Economics of Food Loss in the Produce Industry* (pp. 278–293). Routledge. <https://doi.org/10.4324/9780429264139>
- Buzby, J. (2020, April 13). *Good Samaritan Act Provides Liability Protection For Food Donations*. US Department of Agriculture. <https://www.usda.gov/media/blog/2020/08/13/good-samaritan-act-provides-liability-protection-food-donations>
- Carolinians Gleaning Network*. (2024). Society of St. Andrews. <https://endhunger.org/north-carolina/>
- Chiarella, C., Lamoureaux, Y., Pires, A. A. F., Surls, R., Bennaton, R., Van Soelen Kim, J., Grady, S., Ramos, T. M., Koundinya, V., & DiCaprio, E. (2023). A preliminary assessment of food policy obstacles in California’s produce recovery networks. *Agriculture and Human Values*, 40(3), 1239–1258. <https://doi.org/10.1007/s10460-022-10407-1>
- Credit for Gleaned Crop, NC Gen Stat § 105-151.14 (1983). <https://law.justia.com/codes/north-carolina/2012/chapter-105/article-4/section-105-151.14/>
- Donated Fresh Fruit or Vegetables Credit Report*. (2023). State of California Franchise Tax Board. https://www.ftb.ca.gov/about-ftb/data-reports-plans/California-Donated-Fruits-or-Vegetables-Tax-Credit-Report_November_2023.pdf
- Edwards, G. (2023, April 24). Q&A: *Food Waste Reduction Strategies and Tips from Industry Professionals*. <https://www.waste360.com/food-waste/q-a-food-waste-reduction-strategies-and-tips-from-industry-professionals>
- Evans, A., & Nagele, R. (2018). A Lot to Digest: Advancing Food Waste Policy in the United States. *NATURAL RESOURCES JOURNAL*, 58. <https://digitalrepository.unm.edu/nrj/vol58/iss1/7/>
- FAQs. (2022). USDA Economic Research Service. <https://www.ers.usda.gov/faqs/#Q1>

- Farmers Feeding Florida*. (n.d.). Retrieved October 9, 2023, from <https://www.feedingflorida.org/food-access/farmers-feeding-florida>
- Federal Enhanced Tax Deduction for Food Donation: A Legal Guide*. (2016). Harvard Food Law and Policy Clinic and Food Recovery Project. <https://chlp.org/wp-content/uploads/2013/12/Food-Donation-Fed-Tax-Guide-for-Pub-2.pdf>
- Federal Liability Protection for Food Donation: Legal Fact Sheet*. (2023). Harvard Law School Food Law and Policy Clinic. <https://chlp.org/wp-content/uploads/2013/12/Emerson-Act-Legal-Fact-Sheet.pdf>
- Gleaned crop tax credits TYs 2003-2013 IIT.xlsx*. (n.d.). NC Department of Revenue.
- Gunders, D. (2012). *Wasted: How America is losing up to 40 percent of its food from farm to fork to landfill* (IP:12-06-B; NRDC Issue Paper). Natural Resources Defense Council. <https://www.crrc.org/wp-content/uploads/sites/24/2014/03/wasted-food-IP.pdf>
- Haley, J. (2013). *The Legal Guide to the Bill Emerson Good Samaritan Food Donation Act*. University of Arkansas School of Law. <https://law.uark.edu/service-outreach/food-recovery-project/Legal-Guide-to-the-BEA-Haley-Final.pdf>
- Harvey, S., Mount, R., Valentine, H., & Gibson, C. (2022). Farmer attitudes and perceptions toward gleaning programs and the donation of excess produce to food rescue organizations. *Journal of Agriculture, Food Systems, and Community Development*, 11(4), Article 4. <https://doi.org/10.5304/jafscd.2022.114.016>
- H.R.2 - Agriculture Improvement Act of 2018, Pub. L. No. 115-334, 7 USC 6924 (2018). <https://www.congress.gov/bill/115th-congress/house-bill/2/text>
- H.R.6251—Food Donation Improvement Act of 2021* (2021-12-13). (2021, December 13). [Legislation]. Congress.Gov. <https://www.congress.gov/bill/117th-congress/house-bill/6251>
- Hunger Relief Income Tax Credit & Crop and Livestock Contribution Corporate Income Tax Credit*. (2018). Colorado Office of the State Auditor. https://leg.colorado.gov/sites/default/files/2018-te4_hunger_relief_and_crop_and_livestock_contribution.pdf
- Immunity for Donated Food, NC Gen Stat § 99B-10 (1979). https://www.ncleg.net/enactedlegislation/statutes/html/bysection/chapter_99b/gs_99b-10.html
- Iowa Tax Expenditures Study 2020 (Excel)*. (2020). Iowa Department of Revenue. <https://tax.iowa.gov/sites/default/files/2022-01/2020%20Tax%20Expenditure%20Study%20tables.xlsx>
- Johnsen, D. E. (1997). *Preemptive Effect of the Bill Emerson Good Samaritan Food Donation Act*. https://www.justice.gov/sites/default/files/olc/opinions/1997/03/31/op-olc-v021-p0055_0.pdf

- Johnson, L. K., Bloom, J. D., Dunning, R. D., Gunter, C. C., Boyette, M. D., & Creamer, N. G. (2019). Farmer harvest decisions and vegetable loss in primary production. *Agricultural Systems*, 176, 102672. <https://doi.org/10.1016/j.agsy.2019.102672>
- Kinach, L., Parizeau, K., & Fraser, E. D. G. (2020). Do food donation tax credits for farmers address food loss/waste and food insecurity? A case study from Ontario. *Agriculture and Human Values*, 37(2), 383–396. <https://doi.org/10.1007/s10460-019-09995-2>
- Leasure-Earnhardt, A., Scrufari, C. A., & Valentine, R. (2017). The National Gleaning Project: The Importance of Gleaning and Fresh Food Recovery in a Sustainable and Just Food System. In I. Werkheiser & Z. Piso (Eds.), *Food Justice in US and Global Contexts: Bringing Theory and Practice Together* (pp. 171–184). Springer International Publishing. https://doi.org/10.1007/978-3-319-57174-4_15
- Lee, D., Sönmez, E., Gómez, M. I., & Fan, X. (2017). Combining two wrongs to make two rights: Mitigating food insecurity and food waste through gleaning operations. *Food Policy*, 68, 40–52. <https://doi.org/10.1016/j.foodpol.2016.12.004>
- Lott, S., Irwin, E., & Heiss, S. (2020). Gleaner-farmer relationships: A study of recruitment and relationship development. *Journal of Agriculture, Food Systems, and Community Development*, 9(3), 125–138. <https://doi.org/10.5304/jafscd.2020.093.007>
- Maughan, T., Drost, D., Olsen, S., & Black, B. (2016). *Good Agricultural Practices (GAP): Certification Basics* (Horticulture). Utah State University Extension. https://digitalcommons.usu.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1803&context=extension_curall
- NC Farm to School Program*. (n.d.). Retrieved October 22, 2023, from <https://www.ncfarmtoschool.com/>
- NC Form D-400*. (2013). NC Department of Revenue. <https://www.ncdor.gov/documents/files/2013-d400-individual-income-tax-return-tax-credits/open>
- New York State Corporate Tax Credit Utilization: Beginning Tax Year 2001*. (2020). New York State. https://data.ny.gov/Government-Finance/New-York-State-Corporate-Tax-Credit-Utilization-Be/6axi-iwd2/explore/query/SELECT%0A%20%20%60tax_year%60%2C%0A%20%20%60tax_article%60%2C%0A%20%20%60credit_type%60%2C%0A%20%20%60credit_name%60%2C%0A%20%20%60notes%60%2C%0A%20%20%60number_of_taxpayers%60%2C%0A%20%20%60amount_of_credit%60%2C%0A%20%20%60credit_type_sort_order%60%0AWHERE%0A%20%20caseless_one_of%28%0A%20%20%20%60credit_name%60%2C%0A%20%20%20%20%22Farm%20Donations%20to%20Food%20Pantries%20Credit%22%0A%20%20%29%0AORDER%20BY%0A%20%20%60tax_year%60%20DESC%20NULL%20FIRST%2C%0A%20%20%60credit_name%60%20

ASC%20NULL%20LAST%2C%0A%20%20%60credit_type_sort_order%60%20ASC%20NULL%20LAST/
page/filter

- Paparo, R. (2021, March 15). *Webinar Review: "Exploring the Role of Liability Protection in Facilitating Increased Food Donation."* Harvard Law School Center For Health Law and Policy Innovation. <https://chlpi.org/news-and-events/news-and-commentary/commentary/webinar-review-exploring-the-role-of-liability-protection-in-facilitating-increased-food-donation/>
- Powers, J., & Snow, T. (n.d.). *Beyond Bread: Healthy Food Sourcing in Emergency Food Programs*. Why Hunger. https://whyhunger.org/wp-content/uploads/2017/08/0596-WH-Book_BEYOND-BREAD_Single.pdf
- ReFED | *Rethink Food Waste*. (n.d.). ReFED | Rethink Food Waste. Retrieved October 9, 2023, from <http://policyfinder.refed.com>
- S.5329—*A bill to amend the Bill Emerson Good Samaritan Food Donation Act to improve the program, and for other purposes*. (2022-12-20). (2023, January 5). Congress.Gov. <https://www.congress.gov/bill/117th-congress/senate-bill/5329/text>
- Sandson, E. B. L., Katie. (2019). The role of policy in addressing food loss. In *The Economics of Food Loss in the Produce Industry*. Routledge.
- Sawyers, R. B. (n.d.). *The History of State and Local Taxes in North Carolina—Changes in Sources and Burdens*.
- Schmit, T. M., Wall, G. L., Newbold, E. J., & Bihn, E. A. (2020). Assessing the costs and returns of on-farm food safety improvements: A survey of Good Agricultural Practices (GAPs) training participants. *PLOS ONE*, 15(7), e0235507. <https://doi.org/10.1371/journal.pone.0235507>
- Schulteis, S., Wilson, Dr. N., & Clark, Dr. C. (2023). *Gleaning for Sustainability: Understanding Farmers' Social, Environmental, and Economic Motivations for Charitable Food Donation* [Duke University]. <https://duke.box.com/s/jzcmg8rwwq3aq5mrwfe8di57uaj5bs3e>
- Soma, T., Kozhikode, R., & Krishnan, R. (2021). Tilling food under: Barriers and opportunities to address the loss of edible food at the farm-level in British Columbia, Canada. *Resources, Conservation and Recycling*, 170, 105571. <https://doi.org/10.1016/j.resconrec.2021.105571>
- Standards for the Growing, Harvesting, Packing, and Holding of Produce for Human Consumption, 80 Fed. Reg. 228 74420 (2015). <https://www.govinfo.gov/content/pkg/FR-2015-11-27/pdf/2015-28159.pdf>
- State Specific Food Waste Fact Sheets. (n.d.). *Center For Health Law and Policy Innovation*. Retrieved November 29, 2023, from <https://chlpi.org/project/state-specific-food-waste-fact-sheets/>
- Stroud, B. J., & Sastre, L. R. (2023). From the Field to the Patient: A Rural Food Recovery–Based Produce Rx Program. *Health Promotion Practice*, 24(6), 1145–1147. <https://doi.org/10.1177/15248399221091546>

Tax Incentives and Food Donations for Gleaning Organizations. (2023). National Gleaning Project. https://nationalgleaningproject.org/wp-content/uploads/2023/03/Gleaning_Tax_Incentives_2023.pdf

Tax Rate Schedule for Tax Years 2011-2013. (n.d.). NC Department of Revenue. Retrieved January 25, 2024, from <https://www.ncdor.gov/tax-rate-schedule-tax-years-2011-2013>

Tax Simplification and Reduction Act, Pub. L. No. SL2013-316, H998 (2013). <https://www.ncleg.gov/BillLookup/2013/H998>

United States Department of Agriculture. (n.d.). *Frequently Asked Questions about the Bill Emerson Good Samaritan Food Donation Act.* <https://www.usda.gov/sites/default/files/documents/usda-good-samaritan-faqs.pdf>

Updated Tax Credits and Expansion to Certifications Offer Maryland Farmers New Resources. (2023, October 4). Maryland Department of Agriculture. <https://news.maryland.gov/mda/press-release/2023/10/04/updated-tax-credits-and-expansion-to-certifications-offer-maryland-farmers-new-resources/>

U.S. Bureau of Labor Statistics. (2024). *Producer Price Index by Commodity: Farm Products.* FRED, Federal Reserve Bank of St. Louis; FRED, Federal Reserve Bank of St. Louis. <https://fred.stlouisfed.org/series/WPU01>

USDA AMS (Director). (2021, December 22). *The Importance of Gleaning – Federal Initiatives.* <https://www.youtube.com/watch?v=BUMInojKS-c>

Van Zuiden, S. H. (2012). The Good Food Fight for Good Samaritans: The History of Alleviating Liability and Equalizing Tax Incentives for Food Donors. *Drake Journal of Agricultural Law*, 17, 237–262. <https://aglawjournal.wp.drake.edu/wp-content/uploads/sites/66/2016/09/agVol17No1-VanZuiden.pdf>

Wilson, N., Ellison, B., & Buzby, J. (n.d.). *How USDA is tackling food waste and loss* (195). Retrieved January 25, 2024, from <https://wfpc.sanford.duke.edu/podcasts/usda-tackling-food-waste-loss/>



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