

FOOD WASTE: A REGULATORY GAME?

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I. Introduction.....	97
II. United States Food Waste Statistics	98
III. European Union Food Waste Statistics	100
IV. Causes of Food Waste in the United States.....	101
A. Farm Food Loss	102
B. Farm-to-Retail Food Loss	102
C. Retail Food Loss	102
D. Consumer Food Loss	103
V. The United States – Leading in Food Waste?	103
VI. United States Laws and Regulations.....	106
A. Federal Food, Drug, and Cosmetic Act	106
B. Agency Rules and Regulations	107
C. Current Practices	108
VII. Current Food Waste Reduction Programs	110
A. EPA Programs	111
B. USDA Programs	111
VIII. Food Waste Reduction Ideas	112
A. Farm to Retail Food Loss	112
B. Retail Food Loss	113
C. Consumer Food Loss	114
IX. Conclusion.....	115

I. INTRODUCTION

Food waste in America is becoming a great and more publicized concern each year. As the problem increases, many are asking, “What can be done to stop or decrease food waste?” There are many organizations such as the National Resources Defense Council and End Hunger that attempt to raise awareness regarding the problem to help reduce food waste. Additionally, the Environmental Protection Agency (EPA), along with the United States Department of Agriculture

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(USDA) and the Food and Drug Administration (FDA) are challenging everyone to reduce food waste.¹

However, voluntary participation in food waste reduction plans are not the only way to reduce food waste. Adopting stricter regulations and requiring specific food dating can reduce food waste.² This Note will explore the reduction of food waste through stronger regulations. Section I will introduce and explain the topic. Section II will focus on food waste statistics in the United States. Section III will discuss European Union (EU) food waste statistics as compared to the United States. Section IV will examine the different causes of food waste within the United States. Section V turns to the question of whether the United States is leading the world in food waste. Section VI examines the current laws and administrative policies that are in place. Section VII will discuss the current campaigns and events aimed toward food waste reduction and the effectiveness of such programs. This Note examines Governmental and private programs. Section VIII will propose several ways to reduce food waste through specific regulations and governmental programs that focus on all levels of food waste including waste found on farms, in the retail sector, and consumer waste.

II. UNITED STATES FOOD WASTE STATISTICS

Food waste is an ever-growing concern in the United States.³ Recently, *USA Today* reported that Americans throw away 31-40% of all food products post-harvest.⁴ With these numbers in mind, the U.S. government is determined to reduce food waste in the amount of 50% by 2030.⁵ This goal is not something that will occur quickly without some direction and help from the governmental agencies associated with food production and safety, such as the USDA and the FDA.

In order to fully understand the food waste reduction goal, the term “food waste” must be defined in order to understand the parameters of the goal. The USDA defines “food loss” is defined as “the amount of edible food, postharvest, that is available for human consumption but is not consumed for any reason; it

1. See generally *The U.S. Food Loss and Waste Challenge*, OFF. CHIEF ECONOMIST, <https://perma.cc/W8QT-Z2YM> (archived May 2, 2019); *Food Recovery Challenge*, EPA, <https://perma.cc/Z2R6-49E8> (archived Feb. 11, 2019).

2. EMILY BROAD LEIB ET AL., NAT. RES. DEF. COUNCIL, *THE DATING GAME: HOW CONFUSING FOOD DATE LABELS LEAD TO FOOD WASTE IN AMERICA* 23-25 (2013), <https://perma.cc/KSG5-P2BZ>.

3. Sean Rossman, *Here's How Many People America's Wasted Food Could Feed*, USA TODAY (May 16, 2017), <https://perma.cc/W3UD-7MAK>.

4. *Id.*

5. *United States 2030 Food Loss and Waste Reduction Goal*, EPA, <https://perma.cc/6JTV-F5AP> (archived Feb. 11, 2019).

includes cooking loss and natural shrinkage (e.g., moisture loss); loss from mold, pests, or inadequate climate control; and plate waste.”⁶ The estimated food waste statistic (31-40%) takes the definition of food loss into account.⁷

The percentage of food wasted in the United States is staggering. The USDA reported that an estimated 130 billion pounds of food products were thrown away and wasted in 2010.⁸ The 130 billion pounds of food includes food waste from retail stores, restaurants, and individual homes.⁹ To put that statistic into a monetary perspective, 130 billion pounds of food waste equates to approximately \$161 billion worth of food thrown away in 2010.¹⁰

The Economic Research Service (ERS) report calculates food waste in the United States, ranging from the overall pounds of waste to caloric waste.¹¹ In addition to determining how many pounds of food are thrown out each year, the ERS breaks the numbers down further, demonstrating the waste from retail stores and consumer losses.¹² In the United States, retail food losses account for 10% of the available food supply.¹³ The 10% equals approximately 43 billion pounds of food wasted annually.¹⁴ Consumer food waste is estimated to be 21% of the available food supply, or approximately 90 billion pounds of food.¹⁵ In the ERS report used in this Note, the food loss at the farm level and then during transportation to retailers was not calculated.¹⁶

According to the ERS study, “the total amount of food loss represents 387 billion calories. . . of food not available for human consumption per day in 2010, or 1,249 out of 3,796 calories available per American per day.”¹⁷ The United States government’s goal to reduce food waste by 50% is an admirable goal in light of this shocking and disgusting statistic.¹⁸

6. JEAN C. BUZBY ET AL., ECON. RESEARCH SERV., THE ESTIMATED AMOUNT, VALUE, AND CALORIES OF POSTHARVEST FOOD LOSSES AT THE RETAIL AND CONSUMER LEVELS IN THE UNITED STATES III (2014), <https://perma.cc/A2LD-EDGL>.

7. *Id.*

8. *Information Sources*, OFF. CHIEF ECONOMIST, <https://perma.cc/VLP9-QRX3> (archived Feb. 11, 2019).

9. *Id.*

10. *Id.*

11. *See e.g.*, BUZBY ET AL., *supra* note 6, at III.

12. *Id.*

13. *Id.*

14. *Id.*

15. *Id.*

16. *Id.* at 5.

17. *Id.*

18. *United States 2030 Food Loss and Waste Reduction Goal*, *supra* note 5.

III. EUROPEAN UNION FOOD WASTE STATISTICS

The United States is not alone when it comes to problematic food waste. The EU has also focused on how to reduce food waste.¹⁹ This Note will examine the EU's food waste statistic as a comparison for the United States statistics. The United States has a population consisting of approximately 326,625,791 persons in 2017.²⁰ The EU's population in 2017 consisted of roughly 508,943,606 persons.²¹ Additionally, the United States and the EU have comparable gross domestic products (GDPs)—the United States being worth \$17,348 trillion in 2014 and the EU being worth \$18,527 trillion.²² Similar populations and GDPs allow for a reasonable comparison between the two geographical areas when evaluating the United States food waste statistics.

The EU reports that approximately 88 million metric tonnes²³ of wasted food each year.²⁴ In pounds, that equates to approximately 1.94 billion pounds of food.²⁵ In 2012, it was estimated that 20% of the total food produced in the EU was wasted.²⁶ The main cause of food waste in the EU stems from households or consumers.²⁷ An estimated 46.5 million tonnes of food waste occurred in 2012 from EU consumers, which accounts for 53% of all food waste within the EU.²⁸ Retailers and the food service industry account for another 15.1 million tonnes of food waste, which is approximately 17% of all EU food waste.²⁹

Much like the United States, consumers and retailers (including food service providers), are the biggest culprits of foods waste in the EU.³⁰ Despite the astonishing food waste statistic for the EU, the United States exceeds the EU in

19. Peter Yeung, *How Much Food Does the EU Waste?*, INDEPENDENT (Dec. 18, 2015), <https://www.independent.co.uk/news/world/europe/how-much-food-does-the-eu-waste-a6778351.html>.

20. *The World Factbook*, CIA, <https://perma.cc/3GVD-WFYT> (archived Feb. 11, 2019).

21. *Population Comparison: China, EU, USA, and Japan*, WORLDOMETERS, <https://perma.cc/Z6RC-P6GN> (archived May 1, 2019).

22. *Id.*

23. "Tonnes" refers to metric tons which is distinguishable from the U.S. standard ton. One metric ton equals approximately 2,204 pounds. One United States standard ton equals approximately 2,000 pounds.

24. *Food Waste*, EUR. COMM'N, <https://perma.cc/ZGD2-TDE9> (archived Feb. 11, 2019).

25. Calculated by multiply the number of tonnes by 2204.6 (88,000,000 x 2204.6).

26. ÅSA STENMARK ET AL., EU FUSIONS, ESTIMATES OF EUROPEAN FOOD WASTE LEVELS 4 (2016), <https://perma.cc/E94W-4CG2>.

27. *Id.*

28. *Id.*

29. *Id.*

30. BUZBY ET AL., *supra* note 6, at III; STENMARK ET AL., *supra* note 26, at 4.

food waste when comparing the waste on a per capita basis.³¹ Based on the previously mentioned statistics, the United States wastes approximately 401 pounds of food per capita yearly.³² The EU, comparatively, wastes an estimated 386 pounds per capita yearly.³³ While the EU is wasting less food per capita than the United States by an estimated fifteen pounds,³⁴ the EU is also facing problems with food waste and is seeking ways to reduce such waste.³⁵ The conclusion is simple: food waste is a growing problem worldwide. While questions surrounding food waste are surfacing in the United States and the federal government is starting the set goals,³⁶ the EU is already taking action.³⁷

The 15-pound yearly difference per capita between the United States and the EU does not appear to be much, when added up, the EU saves an estimated 7.6 billion pounds of food annually.³⁸ The amount of food waste prevented in the EU is not to be underestimated. While later sections of this Note discuss different policies and measures to lessen and prevent food waste, the United States would do well to take a lesson from the EU to address food waste.

IV. CAUSES OF FOOD WASTE IN THE UNITED STATES

Considering 15 million United States households suffered from food insecurity during 2017, the amount of food waste in this country is a problem that needs addressing.³⁹ In order to address the main problem, we must first identify the cause before determining and presenting a solution. There are four levels of food loss, and each have differing reasons and events that lead to food waste.⁴⁰ The four levels include: the farm level, the farm-to-retail level, the retail level, and the consumer level.⁴¹

31. BUZBY ET AL., *supra* note 6, at III; STENMARK ET AL., *supra* note 26, at 4.

32. See BUZBY ET AL., *supra* note 6, at III; *The World Factbook*, *supra* note 20 (calculated by dividing the number of pounds by the number of persons in the United States).

33. See *Population Comparison: China, EU, USA, and Japan*, *supra* note 21 (calculated by dividing the number of pounds by the number of persons in the EU).

34. See BUZBY ET AL., *supra* note 6, at III; STENMARK ET AL., *supra* note 26, at 4.

35. *EU Actions Against Food Waste*, EUR. COMM'N, <https://perma.cc/8N5W-XX3L> (archived Feb. 11, 2019); Yeung, *supra* note 19.

36. Rossman, *supra* note 3.

37. *EU Actions Against Food Waste*, *supra* note 35. See *Food Waste* *supra* note 24 and accompanying text.

38. See BUZBY ET AL., *supra* note 6, at III; STENMARK ET AL., *supra* note 26, at 4.

39. *Key Statistics & Graphics*, Econ. Research Serv., <https://perma.cc/T49H-HMWY> (archived Feb. 11, 2019).

40. BUZBY ET AL., *supra* note 6, at 5.

41. *Id.*

A. Farm Food Loss

There are many reasons why a farmer may lose food produced at this level. Insects, rodents, birds, and other animals can cause damage-to or completely ruin post-harvest food products.⁴² Additionally, overplanting can lead to food waste, as it is difficult to determine how the market will behave in regards to specific products.⁴³ Finally, weather can have a devastating impact on food production and the quality of the final product, which can lead to additional food loss.⁴⁴

B. Farm-to-Retail Food Loss

The process of getting food from farms to a retail store is more than simply loading a truck and driving the food to the store, it entails following government regulations and preventing damage to the products.⁴⁵ Several different processes and events cause food loss at this level.⁴⁶ First, the United States has food health and safety regulations that prevent some food products from being consumed, such as animals ready for slaughter that are determined to be unsafe for consumption⁴⁷ (e.g., a cow infected with mad cow disease). Food spills and damage can occur when there are equipment malfunctions, or problems during transporting or processing.⁴⁸ Malfunction can range from a cold storage unit failing to basic inefficiencies during transportation.⁴⁹ Additionally, blemished or misshapen food is often wasted as it does not meet consumer standards and the farmers find the product unsaleable.⁵⁰

C. Retail Food Loss

Retailers also have a challenge when it comes to preventing food waste and loss. Dented or damaged packaging can lead to food products going bad faster than anticipated, therefore becoming unsellable.⁵¹ Overstocking, especially during the holidays, can become a source of food waste as well when left over items remain unsold.⁵² It is difficult to predict how many consumers will want a specific good,

42. *Id.*

43. *Id.*

44. *Id.*

45. *See id.*

46. *Id.*

47. *Id.*

48. *Id.*

49. *Id.*

50. *Id.*

51. *Id.*

52. *Id.*

which is major concern during the holiday season for holiday specific items, as well as, for everyday goods throughout the year.⁵³ Retailers also face similar challenges as the food transporter, including malfunctioning equipment and inadequate storage facilities, all which can lead to increased food waste.⁵⁴

D. Consumer Food Loss

The final level of food loss is the consumer level. This is where the majority of the calculated food waste occurs (90 billion pounds out of 131 billion pounds in the United States alone).⁵⁵ Consumer food waste stems from confusion over “use-by” and “best before” dates, in addition to the lack of knowledge regarding how to prepare the food and portion sizes.⁵⁶ Consumer demands for cosmetically pleasing food products also creates food waste, as customers expect to purchase the perfectly shaped banana or apple.⁵⁷ Many customers refuse to purchase products that look unpleasing to the eye or do not meet high cosmetic standards.⁵⁸ Psychological tastes and attitudes can also affect food waste.⁵⁹ Many people waste food that they do not like or refuse to eat for religious or moral reasons.⁶⁰ Each of these reasons explains why consumers in the United States waste over 131 billion pounds of food annually.⁶¹

V. THE UNITED STATES – LEADING IN FOOD WASTE?

In a 2016 article titled *Why Americans Lead the World in Food Waste*, Adam Chandler asserts that Americans led the entire world in food waste.⁶² Whether or not the assertion is true, the food waste statistics in the United States are staggering, but why? Chandler asserts the reason is simply that American’s have the most food waste because, “[c]alories are cheap and people are picky.”⁶³

53. *Id.*

54. *Id.*

55. *Id.* at III.

56. *Id.* at 5.

57. *Id.*

58. *Id.*

59. *Id.*

60. *Id.* at 5.

61. *See id.* at III.

62. Adam Chandler, *Why Americans Lead the World in Food Waste*, ATLANTIC (Jul. 15, 2016), <https://perma.cc/F3NW-MVVD>.

63. *Id.*

There is a strong argument to support the assertion that calories are cheaper or more accessible in the United States.⁶⁴ The USDA reported that between 1960 and 2007 the percentage of disposable money spent on food declined.⁶⁵ By 2016, Americans spent 9.9% of their income on food (5.2 % on food at home and 4.7% on food take out or eating at restaurants).⁶⁶ In the 1960s, the percentage of disposable income spent on food was over 17%⁶⁷, which indicates food in the United States has become more accessible as consumers are spending less of their total income on food.

However for many countries in the world, the percentage of household income spent on food is not comparable to the United States.⁶⁸ In Nigeria, a household will spend approximately 56.4% of all income on food.⁶⁹ Other countries, such as Kenya, Algeria, and Azerbaijan, spend between 40-50% of household incomes on food.⁷⁰ These numbers and statistics do not indicate that food in the United States is less expensive, rather that food is simply more accessible in the United States than in other countries.⁷¹

Therefore, the assertion that calories are cheaper in the United States⁷² is accurate. If one is only spending 9% of household income on food, then food arguably becomes more disposable as the food budget is not a large portion of the overall budget. As a general assumption, a family who spent 50% of their household income on food will be less likely to throw out food and be wasteful, as there may not be enough spare money to buy more.

Chandler also asserted that the United States creates more food waste than any other country because Americans are picky.⁷³ A study conducted by *The Guardian* reported that large quantities of fresh produce in the United States are going to waste.⁷⁴ The reason behind this waste is the search for perfection and

64. See generally Derek Thompson, *Cheap Eats: How American Spends Money on Food*, ATLANTIC (Mar. 8, 2013), <https://perma.cc/P4PT-MR4J>.

65. *Food Prices and Spending*, ECON. RESEARCH SERV., <https://perma.cc/5K6Q-4XH8> (archived Feb. 11, 2019).

66. *Id.*

67. *Id.*

68. Alex Gray, *Which Countries Spend the Most on Food? This Map Will Show You*, WORLD ECON. F. (Dec. 7, 2016), <https://perma.cc/EVF5-XFTX>.

69. *Id.*

70. *Id.*

71. *Id.*

72. Thompson, *supra* note 64.

73. Chandler, *supra* note 62.

74. Suzanne Goldenberg, *Half of all US Food Produce is Thrown Away, New Research Suggests*, GUARDIAN (July 13, 2016), <https://perma.cc/2WDU-KCUB>.

beauty.⁷⁵ The study indicates that Americans are obsessed with cosmetic standards that are difficult to achieve.⁷⁶ With such consumer standards, one half of all produce is “left in the field to rot, fed to livestock or hauled directly from the field to landfill.”⁷⁷ Farmers often leave the produce in the fields to rot or feed it to livestock because supermarkets in the United States generally reject produce that is not the ideal picture of perfection.⁷⁸

While Americans’ unrealistic standards regarding the appearance of food products does contribute to food waste, there has been an increased desire to start selling and buying what has been termed “ugly food”.⁷⁹ Thanks to a campaign known as “#WhatTheFork”, stores such as Whole Foods now accept and sell ugly food.⁸⁰ A new awareness regarding ugly food could lead to a decrease in food waste, but for now, while attitudes are still changing, Americans’ picky behaviors continue to create food waste.

Another contributing factor to the United States leading the world in food waste is the awareness and impacts of such waste. According to a study regarding American consumers, only 42% of people surveyed previously heard or saw information about food waste within the last year.⁸¹ Further, when asked the approximate amount of food waste in the United States, only 45% of people were able to correctly answer 40%.⁸² Of the 55% that answered incorrectly, many provided an estimated percentage much lower than the actual 40%.⁸³ Interestingly, 37% of people stated they throw out none or hardly any fruits and vegetables, homemade meals, bread, meat, milk, and packaged foods.⁸⁴

The previously stated statistics demonstrate the incredible lack of awareness regarding food waste and how that is a contributing factor to the problem. A shocking 37% of people essentially claimed they hardly throw out any food.⁸⁵ This statistic begs the question whether the person answering truly understood what food waste means. The lack of awareness and understanding of food waste can

75. Eleanor Goldberg, *The U.S. Wastes Half of All Produce Because It's Not Instagram-Worthy*, HUFFINGTON POST (July 15, 2016), <https://perma.cc/DA3P-PZ3X>.

76. Goldenberg, *supra* note 74.

77. *Id.*

78. Madison Park, *Startups See Potential in 'Ugly Food' Rejected by Supermarkets*, USA Today (March 11, 2016), <https://perma.cc/AVG4-98AW>.

79. *Id.*

80. *Id.*

81. RONI A. NEFF ET AL., PLOS ONE, WASTED FOOD: U.S. CONSUMERS' REPORTED AWARENESS, ATTITUDES, AND BEHAVIORS (June 10, 2015), <https://perma.cc/E8K9-TDUV>.

82. *Id.*

83. *Id.*

84. *Id.*

85. *Id.*

lead to consumers throwing away food that is still edible and encourages the picky mindset that was previously discussed. An increased awareness could potentially lead to less waste.

VI. UNITED STATES LAWS AND REGULATIONS

As previously discussed, food waste is a concern in the United States. By examining the current food regulations in the United States, we will understand how to move forward and make policy changes. The focus will be on general regulations and food labeling (or dating) practices. The purpose is to identify what regulations are in place and determine how they are impacting food waste.

*A. Federal Food, Drug, and Cosmetic Act*⁸⁶

The Federal Food, Drug, and Cosmetic Act (Act) provides guidelines regarding food packaging, labeling, and handling in general.⁸⁷ Under the Act, the United States Secretary of Agriculture (Secretary) is charged with promoting honesty and fair dealing with food on behalf of the consumer.⁸⁸ The Secretary is expected to issue regulations focused on consumer protection.⁸⁹ Those regulations can be found in the Code of Federal Regulations (C.F.R), which will be discussed later.

The Act specifically forbids “[t]he adulteration or misbranding of any food, drug, device, tobacco product, or cosmetic in interstate commerce.”⁹⁰ Misbranding can entail, but is not limited to, a false or misleading statement, the failure to include the word “imitation” if the item is not the actual item (*e.g.*, imitation crab), or a misrepresentation of the quality of food.⁹¹ This restriction is important to food waste reduction, as misbranding can affect whether a consumer receives the expected product or an unexpected product. If a consumer is disappointed with the quality of a product or the flavor due to misbranding, it could potentially lead to additional food waste.

The Act also mandates nutrition labels for food sold for human consumption.⁹² The nutrition labels must include the serving size, the number of

86. The Federal Food, Drug, and Cosmetic Act is detailed law regarding drugs, cosmetics, and all types of food. As such, this Note will focus on the specific sections that are pertinent to food labeling and how that relates to food waste generally. This is not intended to be an in-depth examination of this law.

87. *See generally* 21 U.S.C. § 341 (2018); 21 U.S.C. § 331 (2018).

88. 21 U.S.C. § 341.

89. 21 U.S.C. § 341.

90. 21 U.S.C. § 331.

91. *See generally* 21 U.S.C. § 343 (2018).

92. 21 U.S.C. § 343(q)(1).

servings, and the number of calories.⁹³ The labels must also include detailed information such as the total fat, saturated fat, sodium, sugar, and carbohydrates among other things.⁹⁴ The detailed regulations regarding nutrition labels is staggering. By examining thorough nutrition labels, it would be easy to surmise that the Act is meant to help consumers be aware of the contents of various food items to ensure safety.

However, it is interesting to note that while the Act focuses several subsections on nutrition labels, it fails completely to address the need for an expiration date or best before date on the food it purports to protect.⁹⁵ An expiration date or best buy date is more directly related to food waste reduction than mandatory nutrition labels.⁹⁶ If there is confusion over the longevity of a food, the probability of it being thrown out would tend to increase, regardless of a nutrition label. Therefore, mandating nutrition label does not aid in food waste reduction.

*B. Agency Rules and Regulations*⁹⁷

An effort to enforce federal law has spurred the promulgation of additional agency rules and regulations.⁹⁸ The focus will be on two different sections from the C.F.R. First, the USDA issued a regulation regarding the packaging and labeling of chicken products.⁹⁹ The regulations specifically prohibit “false or misleading labeling” regarding official grade designations, the purity level of the chicken, and the manner in which the chicken was prepared.¹⁰⁰ However, as with the Act, there is no mention of an expiration date, best before date, or any other mandatory dating label.¹⁰¹

The USDA also issued a regulation in reference to animal products generally.¹⁰² Similar to the chicken regulation, regulations prohibit false or misleading labels on all animal products.¹⁰³ One striking difference between the

93. 21 U.S.C. § 343(q)(1)(A)-(D).

94. 21 U.S.C. § 343(q)(1)(A)-(D).

95. *See generally* 21 U.S.C. § 343.

96. *See generally* 21 U.S.C. § 343.

97. Agency rules and regulations, often found in the C.F.R., can cover an immense amount of information and different topics. As such, the regulations discussed in this Note are limited to specific regulations surrounding labeling and dating food products.

98. *Regulations and Directives*, USDA, <https://perma.cc/9TAC-9NGQ> (archived Feb. 11, 2019).

99. 9 C.F.R. 381.129(a) (2019).

100. 9 C.F.R. 381.129(a).

101. *See generally* 9 C.F.R. 381.129.

102. *See generally* 9 C.F.R. 317.8 (2018).

103. 9 C.F.R. 381.129(a); 9 C.F.R. 317.8(a).

two regulations is that the animal products regulation, applicable to all products created from animals and byproducts, specifically references dating labels.¹⁰⁴ There are two different dates that may appear on the packaging: (1) a calendar date that states when the product was prepared as to avoid a misleading label¹⁰⁵ and (2) next to the calendar date, it is required to have an explanatory phrase such as, “‘packing’ date, ‘sell by’ date, or ‘use before’ date.”¹⁰⁶

This regulation could potentially help with food waste reduction as a date that indicates a best before date will help consumers understand when food is usable, or when food needs to be thrown out. However, this particular regulation is not mandatory; the exact language states “a calendar date *may be shown*.”¹⁰⁷ As food dating is not mandatory, products may or may not have a dating label,¹⁰⁸ which only leads to more consumer confusion. Additionally, the requirement to have a qualifying statement, if a date is used, leaves the statement up to the discretion of the producer.¹⁰⁹ The lack of a consistent qualifying statement can confuse consumers and lead to waste more food.¹¹⁰

There is one exception to the general lack of food dating regulations.¹¹¹ Infant formula must have a use-by date that is consistent with the following testing factors: “(1) when consumed, contain not less than the quantity of each nutrient, as set forth on its label; and (2) otherwise be of an acceptable quality (*e.g.*, pass through an ordinary bottle nipple).”¹¹² Interestingly, the date must be based on testing or it will not comply with the regulation.¹¹³

C. Current Practices

As demonstrated by the previous discussion of laws and regulations, there are no federal laws that mandate food dating.¹¹⁴ Due to the lack of regulation, some practices have developed over time in regards to product dating.¹¹⁵ The USDA

104. 9 C.F.R. 317.8(b)(32).

105. 9 C.F.R. 317.8(b)(32)(i).

106. 9 C.F.R. 317.8(b)(32)(ii).

107. 9 C.F.R. 317.8(b)(32) (emphasis added).

108. *See generally* 9 C.F.R. 317.8(b)(32).

109. 9 C.F.R. 317.8(b)(32)(ii).

110. FOOD SAFETY & INSPECTION SER., FOOD PRODUCT DATING, <https://perma.cc/4WAG-PQE2> (archived Feb. 11, 2019).

111. *See generally* 21 CFR 107.20(c) (2017).

112. 21 CFR 107.20(c).

113. 21 CFR 107.20(c).

114. *See generally* 21 U.S.C. § 331 (2018); 21 U.S.C. § 341 (2018); 21 U.S.C. § 343 (2018); 9 C.F.R. 381.129 (2019); 9 C.F.R. 317.8 (2019).

115. *See* FOOD SAFETY & INSPECTION SER., *supra* note 110.

explains that the food dates currently on labels are not based on the quality or safety of the food.¹¹⁶ As there are no regulations requiring the dates to be based on quality or testing, manufacturers are able to decide whether they want to use a date and when that date should be.¹¹⁷ For example, in 2015 General Mills posted a blog explaining food dating.¹¹⁸ Scott Hood, director of Global Food Safety at General Mills, explained most food dates are based on the quality of the food, not the actual safety level of the food.¹¹⁹ Hood stated, “[t]he food still has some level of nutritional value months after the shelf life, but it may not taste very good. It may not perform the way the manufacturer intended.”¹²⁰

Manufacturers selecting dates that do not relate to the safety of the food can lead to increased consumer confusion. If the “best buy” or “use[-]by” date does not actually indicate that the food is unsafe to eat, as Hood explained, then food could potentially get thrown away even though it was still perfectly safe and healthy to consume,¹²¹ resulting in increased food waste.

Another problematic practice that has arisen due to lack of regulation is the question of “open” and “closed” dating.¹²² Open dating is the use of a calendar date (e.g., 1/25/19 or Jan. 25, 2019).¹²³ Closed dating is a manufacturer’s code made up of numbers or letters not understood by the typical consumer.¹²⁴ Open dating is typically used on perishable goods, such as meat or eggs.¹²⁵ Historically, products with a long shelf life have used closed dating, such as canned goods.¹²⁶

This particular practice could lead to more confusion and food waste. If a food product does not have a date label a consumer can understand, it is more difficult to determine if the product is good or bad. As such, food waste can increase.

116. *Id.*

117. *Id.*

118. Amanda Grayson, *How to Decipher the Dates on Food Labels*, GEN. MILLS: TASTE GEN. MILLS (April 28, 2015), <https://perma.cc/Z9T7-AAMZ>.

119. *Id.*

120. *Id.*

121. *See generally id.*

122. FOOD SAFETY & INSPECTION SER., *supra* note 110.

123. *Id.*

124. *Id.*

125. Suzanne Schreck, *A Lesson in Food Product Dating*, FOOD SAFETY NEWS (Oct. 14, 2009), <https://perma.cc/FHR9-E4GX>.

126. *See id.*

VII. CURRENT FOOD WASTE REDUCTION PROGRAMS

As food waste has become a more prominent topic in the news, the USDA and EPA have created voluntary programs to encourage food waste reduction throughout the United States.¹²⁷ These programs take on different shapes and forms, with a common goal of reducing food waste. The USDA and the EPA jointly launched the “U.S. Food Waste Challenge” (Food Waste Challenge).¹²⁸ The program calls for entities involved in food production—such as farms, food manufacturers, grocery stores, universities, and restaurants—to reduce, recover, and recycle.¹²⁹ For the Food Waste Challenge, “reduce” means to lessen the amount of food waste by improving storage, shipping, and other aspects of the food production process.¹³⁰ “Recover,” in reference to the Food Waste Challenge, means using leftover food products to help feed those in need of food.¹³¹ The definition of “recycle” for the Food Waste Challenge means using food waste to compost, feed animals, or create other products like biofuel.¹³²

By 2014, the USDA and EPA garnered over 4,000 participants in the Food Waste Challenge and it continues to grow.¹³³ In addition to the Food Waste Challenge, the USDA and EPA have each created their own programs and initiatives to encourage food waste reduction.¹³⁴ Each program is unique and has a specific focus.¹³⁵

127. See generally Rossman, *supra* note 3; Chandler, *supra* note 62; *The U.S. Food Loss and Waste Challenge*, *supra* note 1; *Food Recovery Challenge*, *supra* note 1.

128. *The U.S. Food Loss and Waste Challenge*, *supra* note 1.

129. *Id.*

130. *Id.*

131. *Id.*

132. *Id.*

133. *Id.*

134. *Selected New and Ongoing USDA Food Loss and Waste Reduction Activities*, OFF. CHIEF ECONOMIST, <https://perma.cc/UP2X-HK6Q> (archived Feb. 11, 2019).

135. *Id.*

A. EPA Programs

The EPA, in conjunction with the Food Recovery Challenge, created the Food Recovery Hierarchy¹³⁶ (see Figure 1¹³⁷). The hierarchy focuses on the different steps to reduce food waste through recovery, starting with reducing the amount of food generated and then using other techniques, such as donating extra food to food banks or feeding animals with what is left over.¹³⁸

Those who participate in the EPA Food Recovery Challenge pledge to improve food management skills and then to report on the results.¹³⁹ Any business or organization can join the Food Recovery Challenge by going to the EPA Food Recover Challenge webpage and signing up.¹⁴⁰

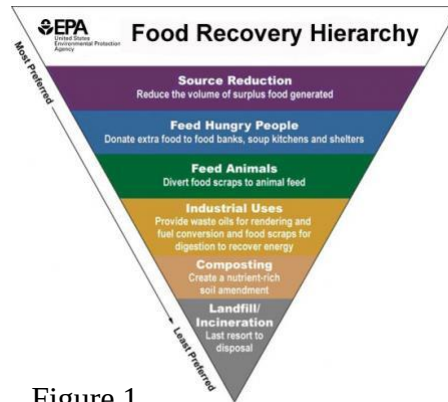


Figure 1

B. USDA Programs

The USDA participates in the “U.S. Food Loss and Waste 2030 Champion” program and encourages companies to make a “public commitment to reduce food loss and waste in their own operations in the United States by 50% by the year 2030.”¹⁴¹ The program created a way to reach the national goal of reducing food waste by 50% by the year 2030.¹⁴²

The USDA also sponsors other food reduction activities, such as: consumer education regarding food waste, consumer education about food storage, connecting produce importers and producers with charitable institutions (to encourage the donation of produce that does not meet market standards), as well as many other programs.¹⁴³

136. *Food Recovery Hierarchy*, EPA, <https://perma.cc/BH3F-6CU5> (archived Feb. 11, 2019).

137. *Id.*

138. *Id.*

139. *Food Recovery Challenge*, *supra* note 1.

140. *Id.*

141. *Id.*

142. *Id.*

143. *Selected New and Ongoing USDA Food Loss and Waste Reduction Activities*, *supra* note 134.

VIII. FOOD WASTE REDUCTION IDEAS

The USDA and EPA voluntary programs are a great start in reducing food waste; however, voluntary programs are not the only way to decrease food waste and are probably not the most effective method. As previously discussed, there are four levels of food loss.¹⁴⁴ Three levels (farm to retail, retail, and consumer) will be discussed in connection with ideas on how to further reduce food waste through consumer awareness, potential laws and regulations, and additional voluntary programs.¹⁴⁵

A. Farm to Retail Food Loss

Farm to retail food loss typically occurs when food products do not meet federal standards and when retailers reject food that does not meet consumer standards.¹⁴⁶ One way to reduce the amount of food waste at this level is to encourage retailers to accept imperfect or misshapen produce. Recently, stores such as Whole Foods have begun to accept “ugly foods.”¹⁴⁷ The movement supports selling misshapen or odd-looking fruits and vegetables that are still nutritious to prevent those items from ending up in the landfill.¹⁴⁸ As recently as 2017, local Iowa business Hy-Vee, began to accept “ugly food” as part of their commitment to reduce food waste.¹⁴⁹

The “ugly food” movement should become more than a voluntary program. To encourage business and consumers to accept “ugly food,” the USDA could relax the grading system employed to determine the grade of the produce.¹⁵⁰ For example, tomatoes can receive one of several grades from the USDA: (1) U.S. No. 1; (2) U.S. Combination; (3) U.S. No. 2 and; (4) U.S. No. 3. A tomato classified as a U.S. No. 1 (and presumably highest quality) must be well-developed, fairly

144. *The U.S. Food Loss and Waste Challenge*, *supra* note 1; *Food Recovery Challenge*, *supra* note 1.

145. Food waste on the farm will not be discussed as many of the sources of food loss and waste stem from animals and nature. As those are not items that can be controlled or regulated, the focus will be on the levels of food waste that can be monitored, controlled, and possibly regulated.

146. BUZBY ET AL., *supra* note 6, at 5.

147. Allison Aubrey, *From Ugly to Hip: Misfit Fruits and Veggies Coming to Whole Foods*, NPR: THE SALT (March 7, 2016), <https://perma.cc/QSL6-QXQD>.

148. *Id.*

149. *Hy-Vee Introduces ‘Ugly’ Produce to Complement Food Waste Diversion Efforts*, HY-VEE (Jan. 18, 2017), <https://perma.cc/YD3X-H3H5>.

150. See generally *Grades and Standards*, USDA, <https://perma.cc/53FH-7YRU> (archived Feb. 11, 2019).

well-formed, and fairly smooth.¹⁵¹ Even a No. 2 or a Combination must be well-developed, reasonably well-formed, and only slightly rough.¹⁵² The only tomato grade that mentions misshapen is U.S. No. 3, meaning that only the lowest USDA grade will allow misshapen tomatoes,¹⁵³ despite ugly food being safe to eat. When examining USDA standards for produce, misshapen products receive the lowest USDA grade in pears, watermelons, etc.¹⁵⁴ If the USDA standards were relaxed to allow misshapen produce to receive higher grades, then farmers would, more readily, be able to sell the ugly food, rather than relying solely on retailers that voluntarily choose to sell such products. A general acceptance of ugly food at retail stores would help reduce waste at the farm and to retail level.

B. Retail Food Loss

A major source of food loss comes from the retail level, including stores and restaurants.¹⁵⁵ A major problem is overstocking, which leads to throwing out excess food products.¹⁵⁶ The EPA has recommended that stores and restaurants donate excess—unspoiled food—to food pantries, food banks, and other organizations that accept food donations.¹⁵⁷ There are more options than just food banks and pantries. Unfortunately, this is merely a suggestion and not a state or federal regulation.

In 2016, France passed a law requiring stores to donate extra food to food pantries and charities.¹⁵⁸ The United States could follow suit and pass a similar law requiring the donation of unspoiled food to local food pantries, homeless shelters, and charities. According to the USDA, the United States wants to reduce food waste by 50% by the year 2030.¹⁵⁹ Passing a law that mandates donations of excess food to food pantries and charities would help with the food loss suffered at the retail level, in addition to helping those who are struggling with food accessibility.

151. *Tomato Grades and Standards*, USDA, <https://perma.cc/3Q8S-PMLV> (archived Feb. 11, 2019).

152. *Id.*

153. *Id.*

154. *See generally Summer and Fall Pear Grades and Standards*, USDA, <https://perma.cc/P4YA-CK5U> (archived Feb. 11, 2019); *Watermelon Grades and Standards*, USDA, <https://perma.cc/6WGL-J6JR> (archived Feb. 11, 2019).

155. BUZBY ET AL., *supra* note 6, at 5.

156. *Id.*

157. *Donating Food*, ECON. RESEARCH SERV., <https://perma.cc/S5GH-VH9U> (archived Feb. 11, 2019)

158. Angelique Chrisafis, *French Law Forbids Food Waste by Supermarkets*, GUARDIAN (Feb. 4, 2016), <https://perma.cc/KZP3-QJ3D>.

159. *The U.S. Food Loss and Waste Challenge*, *supra* note 1.

C. Consumer Food Loss

Consumers are the biggest cause of food waste in the United States.¹⁶⁰ Many consumers throw out food because of confusion over food dating, and lack of awareness.¹⁶¹ Food dating can be extremely confusing as products may have a sell by date, a use-by date, or a best by date.¹⁶² One of the best ways to reduce this confusion is to pass a law mandating one particular phrase. The USDA recommends using the “Best if used by” date, as research demonstrates that this phrase is the best way to communicate when to consume the food by.¹⁶³ When confusion over food dating decreases, food waste will begin to decrease at the retail level.

In 2016, the United States House of Representatives introduced a bill making the mandatory phrase “expires on” when the food is no longer acceptable to consume.¹⁶⁴ The bill also proposed to define the exact meaning of the selected phrase.¹⁶⁵ The idea was to create a uniform labeling system to reduce consumer confusion in an effort to decrease food waste.¹⁶⁶ A law similar to this, but using the USDA’s recommendation of best if used by would help to decrease consumer food waste as consumer confusion regarding food longevity lessened.

In addition to regulating food dating labels, increasing consumer awareness regarding food waste in general and when food is no longer edible can also help decrease food waste. In 2015, the USDA created the FoodKeeper App that allows consumers to check whether a certain food product is still edible or not.¹⁶⁷ This is a simple idea that can help spread awareness regarding food waste and food longevity. As only 42% of Americans have seen or heard about food waste reduction awareness programs, the government should create programs that are more visible to help encourage consumers to reduce food loss.¹⁶⁸ Many of the programs supported by the USDA and EPA focus on the retail sector.¹⁶⁹ There

160. BUZBY ET AL., *supra* note 6, at 5.

161. *Id.*

162. FOOD SAFETY & INSPECTION SER., *supra* note 110.

163. *Id.*

164. H.R. 5298, 114th Cong. (2016).

165. H.R. 5298.

166. H.R. 5298.

167. Christopher Bernstein, *New USDA ‘FoodKeeper’ App: Your New Tool for Smart Food Storage*, USDA: BLOG, (Apr. 2, 2015), <https://perma.cc/5QGF-SKRP>.

168. NEFF ET AL., *supra* note 81.

169. *See generally The U.S. Food Loss and Waste Challenge*, *supra* note 1; *Food Recovery Challenge*, *supra* note 1.

2019]

Food Waste

115

appears to be only a small number of programs focused on consumers directly.¹⁷⁰ The awareness programs should shift focus to include the consumer along with the retailers.

IX. CONCLUSION

Food waste is a problem in the United States. The current laws and regulations that are in place fail to address the different levels of food loss. The regulations fail to address consumer confusion, leading to food waste, or the loss due to grading standards. To address the problem, federal agencies have introduced voluntary programs for businesses to encourage food waste reduction, but such programs are not the only solution to the food waste epidemic.

In order to address the United States' food waste problem, regulations and laws need to be altered. First, the USDA can reduce grading standards for produce that would normally be considered ugly foods and encourage more farmers to sell such products to retailers. Additionally, the United States could follow France's example and pass a law mandating the donation of excess food from retailers to food pantries or charities. This will help reduce food waste and aid those who are struggling to afford food.

A simple regulation change to reduce food waste is to mandate that all food products have a label stating, best if used by followed by a calendar date. This will reduce consumer confusion over the shelf life of a product and most likely aid in the reduction of food loss.

Finally, consumer awareness campaigns and voluntary programs should continue to be promulgated. The law and regulation changes mentioned above would be a step in the right direction, but food waste reduction also depends on consumers and businesses changing their practices. As such, a continued focus on awareness campaigns and voluntary programs will continue to help the United States reduce the amount of food waste experienced yearly.

170. See generally *The U.S. Food Loss and Waste Challenge*, *supra* note 1; *Food Recovery Challenge*, *supra* note 1.