



ROMAINE CALM AND CARRY ON

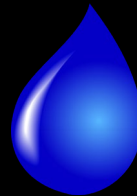
How to deal with nationwide outbreaks, washing produce, and produce safety regulations and exemptions.

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WHAT IS WRONG WITH ROMAINE?



LOCATION?



WATER?



DESIGN?

CARPE POTESTATEM (SEIZE THE OPPORTUNITY)

- After an outbreak, it can take years for people to regain trust and consumption to get back to previous levels
- *2006 Spinach outbreak took 68 weeks for consumption to get back to previous level
- *Consumption of other lettuces increased to make up for the reduced usage of spinach
- What can a local farmer do about these outbreaks?
 - Marketing
 - Increase/change planting

* <https://www.ers.usda.gov/amber-waves/2010/march/consumers-response-to-the-2006-foodborne-illness-outbreak-linked-to-spinach/>

**TO WASH,
OR NOT TO WASH,
THAT IS THE QUESTION**



~ Not Shakespeare



WASHING PRODUCE

- Not required
- Time consuming
- Washing produce can create cross-contamination
- Washing equipment must be cleaned and sanitized to prevent contamination
- Consumers need to be washing ALL produce just prior to consumption ~ Educate them!

TWO GENERAL METHODS

- Single pass rinse under running water
- Batch dunk/soak in large container





Single Pass Rinse Water

- Must not have detectable generic *E. coli* in 100 mL sample
- The FSMA Produce Safety Rule does not require water treatment
- Antimicrobial products, such as sanitizers, can be added as a commonly recommended Good Agricultural Practice
 - May reduce the buildup of microorganisms (biofilms) in equipment and on food contact surfaces





Recirculated and Batch Water

- Must have no detectable generic *E. coli* in 100 mL sample at the beginning of use and maintain safe and adequate sanitary quality throughout use
- Treatment is not required but can be used to maintain water quality and reduce cross-contamination risks
- Any antimicrobial product used in the water must be labeled for use with fruits and vegetables
- A schedule must be established for changing batch water or a process in place for minimizing the build-up of organic material in the water



Key Water Quality Variables

- Quality at start of use
 - No detectable generic *E. coli* in 100 mL of sample
- pH
 - Can impact the effectiveness of antimicrobial treatments
- Temperature
 - Must be monitored to minimize potential for infiltration
- Turbidity
 - Can be used to manage water change schedule



Table 1. Strength of chlorine sanitizing wash recommended for various types of produce.		
<i>Type of Produce</i>	<i>Recommended PPM Chlorine</i>	<i>Bleach/gallon of water¹</i>
Apples, pears, squash, cucumbers	65 PPM	1 tsp/gal
Leafy greens, peaches, peppers, tomatoes, asparagus, broccoli, carrots	130 PPM	2 tsp/gal
Melons, citrus, root crops	400 PPM ²	2 tblsp/gal
Berries (strawberries, blueberries, blackberries, raspberries, etc.)	No washing	N/A
<i>¹Bleach/gallon of water based on using household bleach containing no fragrances or thickeners with a base concentration of 5.25% sodium hypochlorite.</i>		
<i>²Sanitizing wash should be followed by a potable water rinse.</i>		

Table 2. Common types of sanitizers and their characteristics.					
<i>Sanitizer</i>	<i>Uses</i>	<i>Recommended concentrations</i>	<i>Contact time required</i>	<i>Advantages</i>	<i>Disadvantages</i>
Chlorine-based	Produce wash water, equipment, & facilities	* ≤ 200 ppm without rinsing * $\leq 2,000$ ppm with potable H ₂ O rinse	1 to 5 minutes at 200 ppm	*Inexpensive *Available *Wide range of effectiveness	*Corrosive *Irritating fumes *Rapid loss of effectiveness
Quaternary ammonia "Quats"	Hands, facilities, food contact-surfaces, & equipment	* ≤ 200 ppm without rinsing *200-500 ppm with potable H ₂ O rinse	≥ 1 minute	*Non-corrosive *Relatively non-irritating	*Good residual activity/stability *Less effective than others for control of E. coli
Iodophors "Iodine-based"	Facilities, food contact-surfaces, & equipment	*12.5-25 ppm without rinsing *>25 ppm with potable H ₂ O rinse	≥ 1 minute	*Effective at: -low conc. -wide pH range -hard water *Non-irritating *Good penetration *Prevents biofilm formation *Good residual	*Expensive *May stain *Not a cleaner



Follow the Label!

- Always read and follow label instructions
- You must use the product only as labeled
 - Direct contact with produce vs. food contact surface
- You should use the correct amount of antimicrobial product (in ppm or other measurement)
- Understand factors that affect efficacy
 - Temperature, pH, sunlight, and how it is affected by organic load

ULTRA CLOROX® BRAND REGULAR BLEACH (EPA Reg. No. 5813-50)
[REGISTERED AS Clorox® Regular Bleach]
FOR FRUIT & VEGETABLE WASHING
It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Thoroughly clean all fruits and vegetables in a wash tank. Prepare a sanitizing solution of 25 ppm available chlorine. After draining the tank, submerge fruit or vegetables for 2 minutes in a second wash tank containing the recirculating sanitizing solution. Spray rinse vegetables with the sanitizing solution prior to packaging. Rinse fruit with potable water only prior to packaging.

PRODUCE SAFETY RULE REGULATION AND EXEMPTIONS



FSMA PRODUCE SAFETY RULE

- Federal law for produce farms requiring food safety inspections
- Covered farm is any farm that sells an average of more than \$25,000 of produce per year (adjusted for inflation)
- Qualified Exempt Farm sells less than \$500,000 of all food sales with at least half going to a Qualified End User
- Process Exempt Farm is a farm that sells only produce that will go through processing that will kill pathogens
- Non-covered produce: potatoes, sweet potatoes, corn, okra, peanuts, pecans, etc.

EXEMPTION REQUIREMENTS

- If you want to claim an exemption, you must have records proving your exemption
 - A signed annual financial review
 - Receipts, invoices, etc. to back up your financial review
 - Process exempt produce requires documents informing buyer that the produce must be processed before going to the consumer
- Failure to have records proving your exemption can result in an inspection of your farm!

ANNUAL REVIEW WORKBOOK

PSR Exemption Workbook.xlsx - Excel

	A	B	C	D	E	F	G	H	I	J	K	L
1	Produce Safety Rule Exemption Annual Review											
2		Sales for the Year of:				2018						
3		Farm Name:		Big Beaver Creek Farm and Bakery								
4		Address:		970 Case Tractor Dr								
5		City, State, Zip:		Grainola		OK	74652					
6		Customer	Total Produce Sales	Other Food Sales	Total Food Sales	Sale Type	State/Tribe	Distance (Miles)	QEU?	QEU Sales		
7		Meers Farmers Market	\$ 2,532.00	\$ 657.00	\$ 3,189.00	Consumer	In-state	-	YES	\$ 3,189.00		
8		Joe's Restaurant	\$ 5,890.00		\$ 5,890.00	Restaurant	In-state	-	YES	\$ 5,890.00		
9		CSA sales	\$ 50,000.00	\$ 10,954.00	\$ 60,954.00	Consumer	In-state	-	YES	\$ 60,954.00		
10		Dallas Produce Distributors	\$ 80,256.00		\$ 80,256.00	Other	Other	350	NO	\$ -		
11		Jessie's Natural Foods Grocery Store	\$ 32,088.00		\$ 32,088.00	Retail	In-state	-	YES	\$ 32,088.00		
12		Wichita Grocery Store	\$ 43,200.00		\$ 43,200.00	Retail	Other	83	YES	\$ 43,200.00		
13		Hay sold to neighbor		\$ 5,250.00	\$ 5,250.00	Consumer	In-state	10	YES	\$ 5,250.00		
14		3 cows sold at Picher Livestock Auction		\$ 3,300.00	\$ 3,300.00	Other	In-state	121	NO	\$ -		
15		Osage Nation Market	\$ 3,535.00	\$ 264.00	\$ 3,799.00	Retail	In-tribe	-	YES	\$ 3,799.00		
16				\$ -	\$ -			-	-	\$ -		
17				\$ -	\$ -			-	-	\$ -		
18				\$ -	\$ -			-	-	\$ -		
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32				\$ -	\$ -			-	-	\$ -		
33				\$ -	\$ -			-	-	\$ -		
34				\$ -	\$ -			-	-	\$ -		

START Example 2016 2017 2018

- MS Excel Workbook Template
- Assists in calculating annual produce and food sales
- Determines if the sale is Qualified Exempt
- Creates a record that includes the needed information and is ready to be signed by farm management
- The cells are protected to prevent accidents

START PAGE

Oklahoma Produce Farm Exemption Annual Financial Review

The Produce Safety Rule requires that farms claiming the Qualified Exemption to keep records and perform an annual review of those records to determine and prove that your farm is a qualified exempt farm. This workbook was created to simplify the calculations needed to determine your exemption, and to create an acceptable record of those calculations. To make this review, you will need to know who purchased food from your farm, and the dollar values of the food they purchased. If you sell at a farmer's market or roadside stand, do not panic! You do not need to know the name of each person you sold to, just need a record of your total sales at that location.

Failure to perform an annual review and have those records available will result in your farm not meeting the requirements for exemption and your farm could be inspected for compliance with the Produce Safety Rule. Some farms eligible for the Qualified Exemption may want to be inspected and can inform us that they do not want to claim the Qualified Exemption.

Instructions

Each tab represents one calendar year. You need 3 years worth of sales records to calculate your 3 year average. If you do not have 3 years worth of sales records, you can estimate how much you think you will sell or call 405-522-3928 to get more information on how to adjust the averages.

If you have previously completed this spreadsheet and are working on your 2019 sales records, call 405-522-3928 or e-mail justin.mcconaghy@ag.ok.gov to request an updated 2019 workbook. Then you will copy and paste sales data from 2017 and 2018 into the new workbook and complete 2019 data. The 2019 workbook will not be available until the new inflation rate is calculated in late March.

Step 1: Enter your farm information here in the shaded cells:

Farm Name:

Address:

City: State: Zip Code:

Step 2: Enter Sales Data

1. For each of the following tabs (2016, 2017, 2018) enter your sales data as directed below in each tab for each year.
 2. Enter a name for your customer (e.g., OKC Farmers Market, Roadside Stand, Joe's Restaurant, Jill's Grocery Store, etc.) and the location where you sold the food (e.g., OKC Farmers Market, Roadside Stand, etc.).

START Example 2016 2017 2018

- Enter your farm name and address on this page and read the instructions
- Click on the year tabs to enter sales information for each year
- Three years of data is needed to calculate your three year average

EXAMPLE PAGE

PSR Exemption Workbook.xlsx - Excel

File Home Insert Page Layout Formulas Data Review View DYMO Label Power Pivot Tell me what you want to do...

ABC Spelling Thesaurus Smart Lookup Translate New Comment Delete Previous Next Show/Hide Comment Show All Comments Show Ink Unprotect Sheet Protect Workbook Share Workbook Protect and Share Workbook Allow Users to Edit Ranges Track Changes Start Inking Ink

A1

	A	B	C	D	E	F	G	H	I	J
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START Example 2016 2017 2018

- Yellow “Example” tab shows an example of what the year tabs can look like with information entered
- Provides some examples of how different types of sales would be entered

ENTERING SALES DATA

Produce Safety Rule Exemption Annual Review								
Sales for the Year of:		2016						
Farm Name:		Enter Farm Name in START tab						
Address:		Enter Address in START tab						
City, State, Zip:		Enter Information in START tab						
Customer	Total Produce Sales	Other Food Sales	Total Food Sales	Sale Type	State/Tribe	Distance (Miles)	QEU?	QEU Sales
			\$ -			-	-	\$ -
			\$ -			-	-	\$ -
			\$ -			-	-	\$ -
			\$ -			-	-	\$ -
			\$ -			-	-	\$ -
			\$ -			-	-	\$ -

- Top section of each page will automatically fill in when you enter your farm name and address at the “Start” page
- Begin entering your customer name or description, and amount of produce and other food sales to that customer for that year

ENTERING SALES DATA

Produce Safety Rule Exemption Annual Review								
Sales for the Year of:		2016						
Farm Name:		Enter Farm Name in START tab						
Address:		Enter Address in START tab						
City, State, Zip:		Enter Information on START tab						
Customer	Total Produce Sales	Other Food Sales	Total Food Sales	Sale Type	State/Tribe	Distance (Miles)	QEU?	QEU Sales
			\$ -			-	-	\$ -
			\$ -			-	-	\$ -
			\$ -			-	-	\$ -
			\$ -			-	-	\$ -
			\$ -			-	-	\$ -
			\$ -			-	-	\$ -

- “Total Food Sales” will automatically calculate
- For “Sale Type,” choose from drop down menu if that sale was direct to the customer (including farmer market/stand/CSA), to a Restaurant, Retail Store, or Other (distributor)

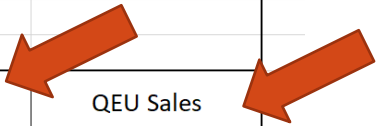
ENTERING SALES DATA

Produce Safety Rule Exemption Annual Review								
Sales for the Year of:		2016						
Farm Name:		Enter Farm Name in START tab						
Address:		Enter Address in START tab						
City, State, Zip:		Enter Information on START tab						
Customer	Total Produce Sales	Other Food Sales	Total Food Sales	Sale Type	State/Tribe	Distance (Miles)	QEU?	QEU Sales
			\$ -			-	-	\$ -
			\$ -			-	-	\$ -
			\$ -			-	-	\$ -
			\$ -			-	-	\$ -
			\$ -			-	-	\$ -
			\$ -			-	-	\$ -

- In “State/Tribe” select from drop down menu if that sale was in-state, in-tribe, or other (outside your state or tribal territory)
- For “Distance (Miles)” enter the number of one-way miles from your farm to the restaurant or retail store that you sold the produce
 - Distance is not necessary for in-state/in-tribe sales or for “Other” sale type

ENTERING SALES DATA

Produce Safety Rule Exemption Annual Review								
Sales for the Year of:		2016						
Farm Name:		Enter Farm Name in START tab						
Address:		Enter Address in START tab						
City, State, Zip:		Enter Information on START tab						
Customer	Total Produce Sales	Other Food Sales	Total Food Sales	Sale Type	State/Tribe	Distance (Miles)	QEU?	QEU Sales
			\$ -			-	-	\$ -
			\$ -			-	-	\$ -
			\$ -			-	-	\$ -
			\$ -			-	-	\$ -
			\$ -			-	-	\$ -
			\$ -			-	-	\$ -



- “QEU?” will automatically say Yes or No after you enter the previous information
 - This means the sale was to a Qualified End User and counts towards a Qualified Exemption
- “QEU Sales” will automatically enter that amount of food sales in this column to calculate if you qualify for the Qualified Exemption

FINISHING THE RECORDS

45			
46	Exemption Calculations		
47	An Exempt Produce Farm is exempt from the FSMA Produce Safety Rule. If you fit in this category, you only need to		
48	3 Year Average Produce Sales	\$ 16,666.67	keep these worksheets and any supporting documents to prove your exemption for 3 years.
49	\$25,000 Adjusted for Inflation	\$ 27,528.00	
50	Exempt Produce Farm?	YES	
51			
52	3 Year Average QEU Sales	\$ 16,666.67	A Qualified Exempt Farm is exempt from the FSMA Produce Safety Rule if the farm wishes to claim this exemption.
53	3 Year Average Total Food Sales	\$ 16,666.67	If you fit in this category, you will need to keep these worksheets and any supporting documents to prove your
54	Percent Sales to Qualified End Users	100%	exemption for 3 years. You will also need to include your farm name and address on a sign, documents, or package
55	\$500,000 Adjusted for Inflation	\$ 550,551.00	of sale.
56	Qualified Exempt Farm?	YES	
57	Name of Person Performing this Review:		
58	Title:		
59	Signature:		
60	Date:		
61			

- After entering the sales records on all three tabs, your exemption will be automatically calculated at the bottom of the last page
- You can then save and print all three year tabs, and sign the bottom of the page to complete your record review

RECORD KEEPING

- You must keep financial records for 3 years
- Keep receipts, invoices, etc. to prove your data
- Every March the exemption dollar limits will be adjusted for inflation
- Request an updated workbook from ODAFF in March/April of each year to recalculate and record your sales data for the previous year
- Each year you can copy your last two years into the new workbook and then complete the latest year tab

NOTES ABOUT QUALIFIED EXEMPT

- You must have this or another similar record proving your exemption
- We will occasionally contact QE farms to verify they are still exempt
- It is your option to claim the Qualified Exemption
- Some farms may choose to not claim it and be inspected to satisfy a buyer's requirement

LEARN MORE ABOUT GROWING SAFE PRODUCE AND THE LAW

- Attend the Produce Safety Alliance Grower Training Course
 - <http://fapc.biz/workshops/produce-safety-alliance-grower-training-course>
- Schedule an On-Farm Readiness Review
 - <https://apps.dasnr.okstate.edu/fapc.okstate.edu/on-farm-readiness-review>
- Call us any time: 405-522-3928

QUESTIONS?

Justin McConaghy

Justin.mcconaghy@ag.ok.gov

405-522-3928

