

Regulatory Considerations for Small-scale Produce Drying Operations: A Multi-State Perspective Obtained Through Interviews With Inspectors



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Introduction

Rising foodborne outbreaks implicating low-moisture foods have demonstrated the need to evaluate food safety practices related to produce drying^{1,2}. Local and state regulations specific to dried produce production vary widely among states, which can complicate food safety regulatory compliance for small-scale processors in the U.S.

Objectives

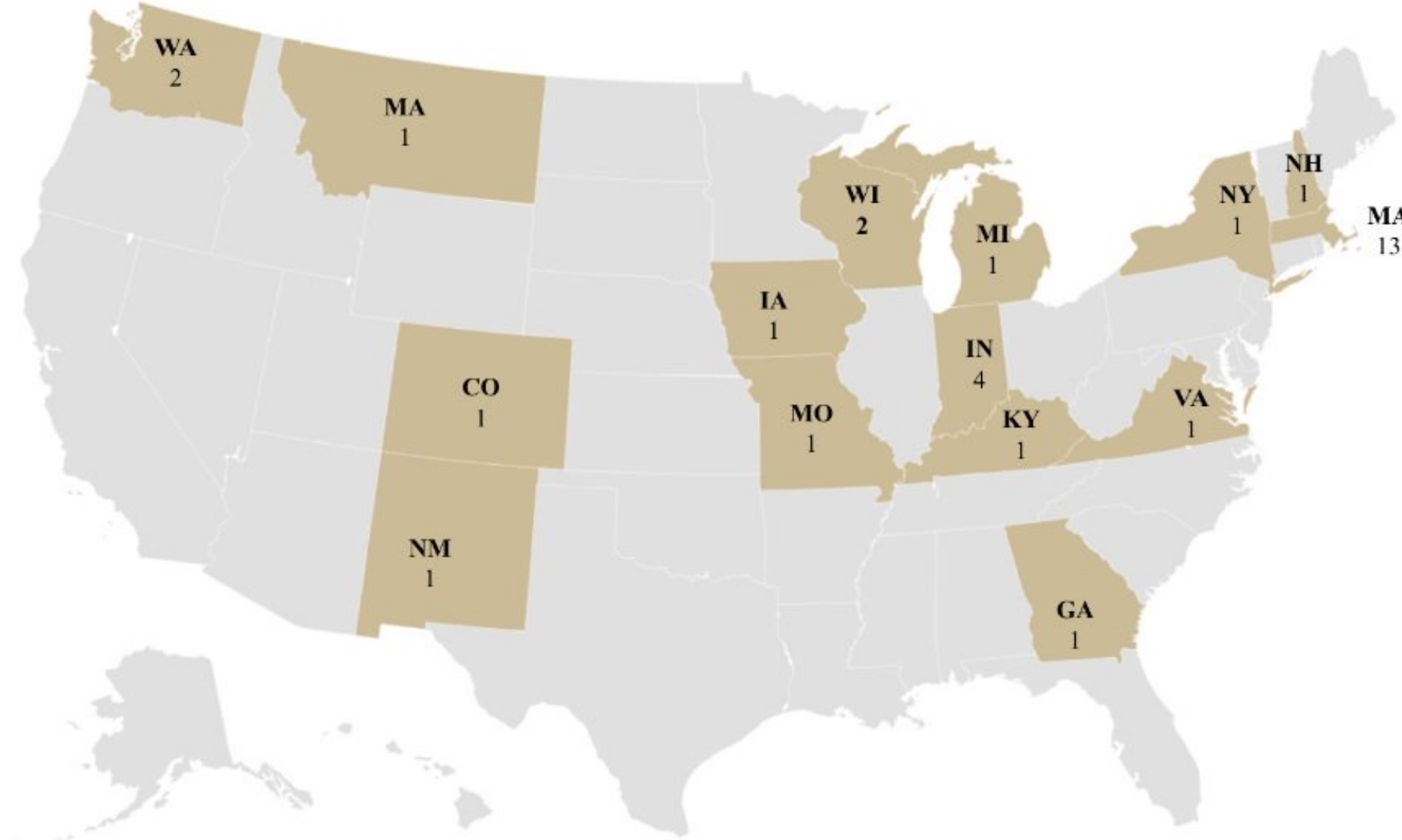
This study was to assess the impact of regional variability on dried fruit regulatory oversight and to identify food safety training needs for small and very-small produce drying operations.

Materials and Methods

Participant recruitment was conducted on a multi-state level – through local points of contact for the various states. We interviewed 30 food safety inspectors via Zoom, using a script that three university food safety specialists had reviewed and that three regulatory professionals had pilot-tested.

Results

The interviews covered a total of 15 states. The inspection jurisdiction of inspectors included 16 at local level, 15 at state level and 1 at university level.



Rule/ regulations used for inspection

Region	n	FSMA	PSR	Food Code*	Title 21 CFR	State Sanitary Code
Northeast	15	1	-	12	2	4
South	3	-	1	1	2	-
Midwest	9	2	1	3	4	3
West	5	-	2	2	1	-

*A version of the food code (Federal, state and/or local)

- Little consistency on what rules/ regulations used for inspection

Confusion with rules/ regulations

“All I can use is 4.10 which is for wholesale use... It is pretty outdated... It does not have any specific for freeze drying.”
Midwest, C3

“The food code is very cumbersome even as a regulator to go through.”
Northeast, F11

“Section 117.80 c2 is vague in itself. It doesn’t mention anything about dried food, doesn’t give critical limits for dried food.”
South, M

- Inspectors expressed confusion about the rules/ regulations used for inspection
- Negatively impacting inspectors’ ability to act as regulators

Discrepancies in critical limits

Water activity

“Don’t get into levels of water activity in health department.”
Northeast, F1

“I will check for sufficient water activity; that is ≤ 0.6 ”
Midwest, C3

“...no specific numbers for water activity.”
South, M

Time-temperature control

“Dried produce is not considered TTCS.”
Northeast, F1

“Once things are cuts, they are considered TTCS rules.”
Northeast, F4

“Could see the argument of dried produce not being TTCS if the water is being removed.”
Northeast, F9

- Lack of agreement on critical limits for produce drying
- Burdening the processor with determining appropriate critical limits

Jurisdiction confusion

“Jurisdiction is a bit of a fuzzy area whether it is local, state, or federal.”
West, N2

“Having different bodies doing inspections, leaving a lot of gaps....The jurisdiction and where those lines are is hard for farmers.”
West, K

- Competing authority causes confusion for both inspectors and processors

Inadequate resources

For inspectors

“Inspectors lack good training.”
Northeast, F1

For processors

“I like to look into available resources for processor but sometimes there is a lack of resources.”
Northeast, F9

Freeze drying

“Frustrating part with freeze drying: You can’t direct them anywhere. We have nothing in writing.”
Midwest, H

Requested education and technical support

“[Guidance on best food safety practices specific to product type] often deals with specific regulations and inspects all or nothing, lose sight of specific processing parameters.”
Northeast, L

“[Clarity on different regulations] because I don’t have clarity so that would be nice to have.”
Northeast, F8

“Fact sheets would be helpful. Something inspectors could hand out or share. Like check out this website from Purdue..”
South, M

Dried produce-specific information

“[Clarity on different regulations] Yes and maybe a sample of what the regulations should be for the board of health. To make clear on different regulations.”
Northeast, F4

“A comprehensive written guideline with a commodity-based flowchart to help with decision making.”
Midwest, H

“FAQs, not just for inspectors but for public that are inquiring about license or regulations..”
Midwest, D

“One pager” resources

Conclusions

The current findings highlighted the lack of consistency in rules/ regulations used to inspect small and very-small produce drying facilities. Most participants were not confident in what the critical limits were for the drying process. Additionally, confusion was expressed over jurisdictional boundaries. Inspectors expressed a lack of adequate resources needed for successful inspections. To overcome these challenges more specificity in regulations when it comes to dried produce was requested. They expressed a need for the development of produce drying educational and technical support from university extensions.

Significance

The findings identify a need for clarity on regulatory interpretation and increased levels of technical and educational support for produce drying.

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