







CSU Extension Fact Sheet: Sprouts, Microgreens and Leafy Greens

Sprouts, microgreens and leafy greens are considered different types of commodities. They are all eaten raw and are generally consumed in salads or as garnishes, but each one has very unique characteristics that set them apart from each other. This fact sheet will help clarify the differences between sprouts, microgreens and leafy greens, and will provide regulatory guidelines for each product.

Characteristics of Sprouts, Microgreens and Leafy Greens

Product	Growth Period	Size	Description	What part is consumed?	How are they sold?
Sprouts 	1 - 8 days	1 - 3 inches	Entire seedling is harvested when seed leaves (cotyledons) are under-developed and there are no true leaves	Root, seed coat and shoot	Entire sprout is packaged for sale including root, seed coat, and shoot
Microgreens 	7 - 21 days	~ 2 inches	Harvested by cutting with the emergence of true leaves (first leaves after cotyledons)	Stem, seed leaves (cotyledons) and first true leaves	Sold whole in trays or flats to customer or cut, rinsed (if applicable), and packaged
Baby Leafy Greens 	21 - 28 days	3 - 4 inches	Harvested by cutting smaller immature leaves	Whole leaf	Whole baby leaf is harvested and packaged. **May include mixing different varieties
Mature Leafy Greens 	45 - 60 days	Mature Leaf	Harvested by cutting larger mature leaves or whole head	Whole leaf	Whole leaf or head is harvested and packaged, may include trimming the exterior leaves

**Mixing of produce commodities is currently under review by FDA under the farm definition. The current guidance and examples from FDA can be found on pages 28 and 31 in the "[Classification of Activities as Harvesting, Packing, Holding, or Manufacturing/Processing for Farms and Facilities Guidance for the Industry Draft Guidance](#)".



Sprouts

Sprouts are regulated under the Food Safety Modernization Act (FSMA) Produce Safety Rule. Under the Produce Safety Rule, covered farms must follow the standards set for worker health and hygiene; agricultural water; biological soil amendments; domesticated and wild animals; equipment, tools, and sanitation; and growing, harvesting, packing and holding activities. Because sprouts have a unique risk profile, the Produce Safety Rule also includes additional sprout-specific provisions in Subpart M which apply to all sprouts except soil- or substrate-grown sprouts harvested without their roots. Under this subpart, sprout growers will also need to identify and mitigate the unique risks associated with growing sprouts, including seed treatment, testing spent sprout irrigation water and recordkeeping. For more information about the sprout requirements under the Produce Safety Rule visit: <https://www.ifsh.iit.edu/ssa>.

Microgreens, Baby Leafy Greens and Mature Leafy Greens

Microgreens, baby leafy greens and mature leafy greens are regulated under the FSMA Produce Safety Rule. Under the Produce Safety Rule, covered farms must follow the standards set for worker health and hygiene; agricultural water; biological soil amendments; domesticated and wild animals; equipment, tools and sanitation; and growing, harvesting, packing and holding activities.

What practices are covered under the Produce Safety Rule?

- All activities associated with growing, harvesting, packing and holding produce.
- Single-cut harvesting; trimming exterior leaves; hydrocooling; rinsing; and some blending or mixing of varieties and packaging are considered harvesting and packing activities (not processing) and, therefore, would only be subject to the requirements of the Produce Safety Rule.
- Blended or mixed raw agricultural commodities (RACs) are covered under the Produce Safety Rule when:
 1. Placed into a packing container such as a harvest box or bin for further distribution. This is a “packing” operation, which falls under the farm definition.
 2. Placed into a packaging container (i.e., clamshell) that directly contacts the food and that a consumer would receive. This is a “packaging” operation, which can also be covered under the farm definition when these activities do not involve additional manufacturing/processing of the product.
- There are some exemptions from the Produce Safety Rule for farmers with limited produce sales and for farmers who sell locally. For more information and to determine if you need to comply with the Produce Safety Rule, visit www.coproductsafety.org or contact Cristy Dice.

“Blending” is combining foods which are the same (i.e., different lots/batches of the same variety).
“Mixing” is the combining of different foods (includes different varieties of the same produce).

What practices are not covered under the Produce Safety Rule?

- Any alteration of the original product or additional cutting that occurs after harvesting, and is not associated with harvesting, would be covered under the Preventive Controls (PC) for Human Food Rule (for example, chopping romaine lettuce into pieces, then packaging it for sale) and will be subject to Colorado-specific requirements and/or licensing. This includes mixing whole produce with cut produce, for example, mixing whole baby leaf lettuce with chopped romaine lettuce.
- For more information about the PC Rule, visit: Food and Drug Administration: <https://www.fda.gov/food/food-safety-modernization-act-fsma/fsma-final-rule-preventive-controls-human-food>.
- For more information about processing produce in Colorado contact the Colorado Department of Public Health and Environment: <https://www.colorado.gov/pacific/cdphe/food-manufacturing-and-storage>, phone: 303-692-3638, email: cdphe_mfgfd@state.co.us.

Other regulatory considerations:

- Growers selling their product as “ready-to-eat” (i.e., washed and packaged), will need a retail food license. Contact your local public health department for more information: <https://www.colorado.gov/pacific/cdphe/find-your-local-public-health-agency>.

Still have questions? Contact Martha Sullins

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