



## On-Farm Practices for Cut, Bagged Leafy Greens

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Consumer interest in convenient pre-packaged and ready-to-eat foods has created the opportunity for growers and other entrepreneurs to add value to their raw agricultural products. Leafy greens that make putting together a green salad as easy as opening a bag are a growing area of interest for adding value for shoppers looking for healthy meals. Safe food-handling guidelines and regulations need to be considered when deciding to “process” products such as leafy greens, especially as outbreaks of food-related disease tied to lettuce, spinach, and other leafy greens have been rising over the past two decades.

The 2009 FDA Food Code\* now classifies *cut* leafy greens as a potentially hazardous food (PHF). PHFs require temperature control because they are capable of supporting the rapid growth of infectious or toxin-producing microbes. Hawai'i Department of Health (DOH) regulations\*\* require any permitted food establishment handling PHFs to use Good Manufacturing Practices (GMPs) as well as proper temperature control to limit pathogen growth or toxin formation in food. Getting a Hawai'i Department of Health Food Establishment Permit (FEP) involves submitting an application to the DOH Sanitation Branch and passing an inspection of the location where the processing and bagging will occur.

If a grower sells “raw” loose unprocessed leafy greens directly to the public, a DOH FEP is not required. Likewise, growers selling raw loose leafy greens that have not



Harvesting lettuce leaves for sale as bagged loose leafy greens. When this product is sold directly to the public by the grower, an FEP is not needed.



For head lettuce (left) and uncut “spring mix” (center), the grower is not required to have an FEP when selling to a distributor who has an FEP. The permit is needed when the grower further processes a leafy green product, such as the chopped lettuce at right.

\*[www.fda.gov/Food/FoodSafety/RetailFoodProtection/FoodCode/default.htm](http://www.fda.gov/Food/FoodSafety/RetailFoodProtection/FoodCode/default.htm); \*\*<http://oeqc.doh.hawaii.gov/sites/har/AdmRules1/11-12.pdf>

undergone any additional cutting or processing after harvest to a distributor, processor, or other permitted food establishment (rather than directly to the consumer) will also not be required to obtain an FEP. In this case the permitted establishment is responsible for obtaining cut leafy greens from a source that supplies produce that is safe for human consumption.

However, because of the change in classification of cut leafy greens from non-PHF to PHF, other processing and sales entities will now be required to get an FEP. For instance, grocery stores selling bagged leafy greens and non-PHFs that were manufactured and packaged in an approved food establishment will now be required to have a permit.

The term “leafy greens” includes iceberg lettuce, romaine lettuce, leaf lettuce, butter lettuce, baby leaf lettuce (i.e., immature lettuce or leafy greens), escarole, endive, spring mix, spinach, cabbage, kale, arugula, and chard. *Cut* leafy greens are cut, shredded, sliced, chopped, or torn. “Leafy greens” do not include herbs such as cilantro or parsley. “Raw” refers to agricultural produce that must be washed or processed before eating.

### Basic handling principles for cut leafy greens

Cut leafy greens are most often bagged for institutional or retail sale. Retail sales include sales from stores, farm stands, and farmers’ market booths. Due to the highly perishable nature of cut leafy greens, refrigeration is necessary as soon as possible after harvest to maintain product quality. In addition, cutting the surface of a plant can invite the uptake and internalization of pathogens if precautions are not taken. The ideal postharvest temperature for holding and storing leafy greens is between 41 and 32°F. The DOH requires the product to be kept at 41°F or lower at the point of sale.

### Communicating with customers

Since it is sometimes difficult for customers to differentiate between leafy greens that are “raw” versus ready to eat (RTE), cut leafy greens should be labeled to identify the product as either raw or RTE.

“Raw” leafy greens should clearly state on the packaging that the product must be washed before serving or eating. RTE cut leafy greens should be labeled “Ready

to eat,” “Washed, ready to eat,” “Triple-washed,” “Pre-washed,” or something similar. This label information is in addition to other DOH food-labeling requirements (e.g., name of product, net contents statement, ingredient statement, and responsibility statement).



Example of a label for a chopped lettuce product indicating that the product has been washed and is ready to eat. This “processing” (chopping) means that the grower needs to have a FEP.



Example of a label for a product that should be rinsed before eating. The leaves are loose and whole, so the grower does not need an FEP if selling the product directly to the public.

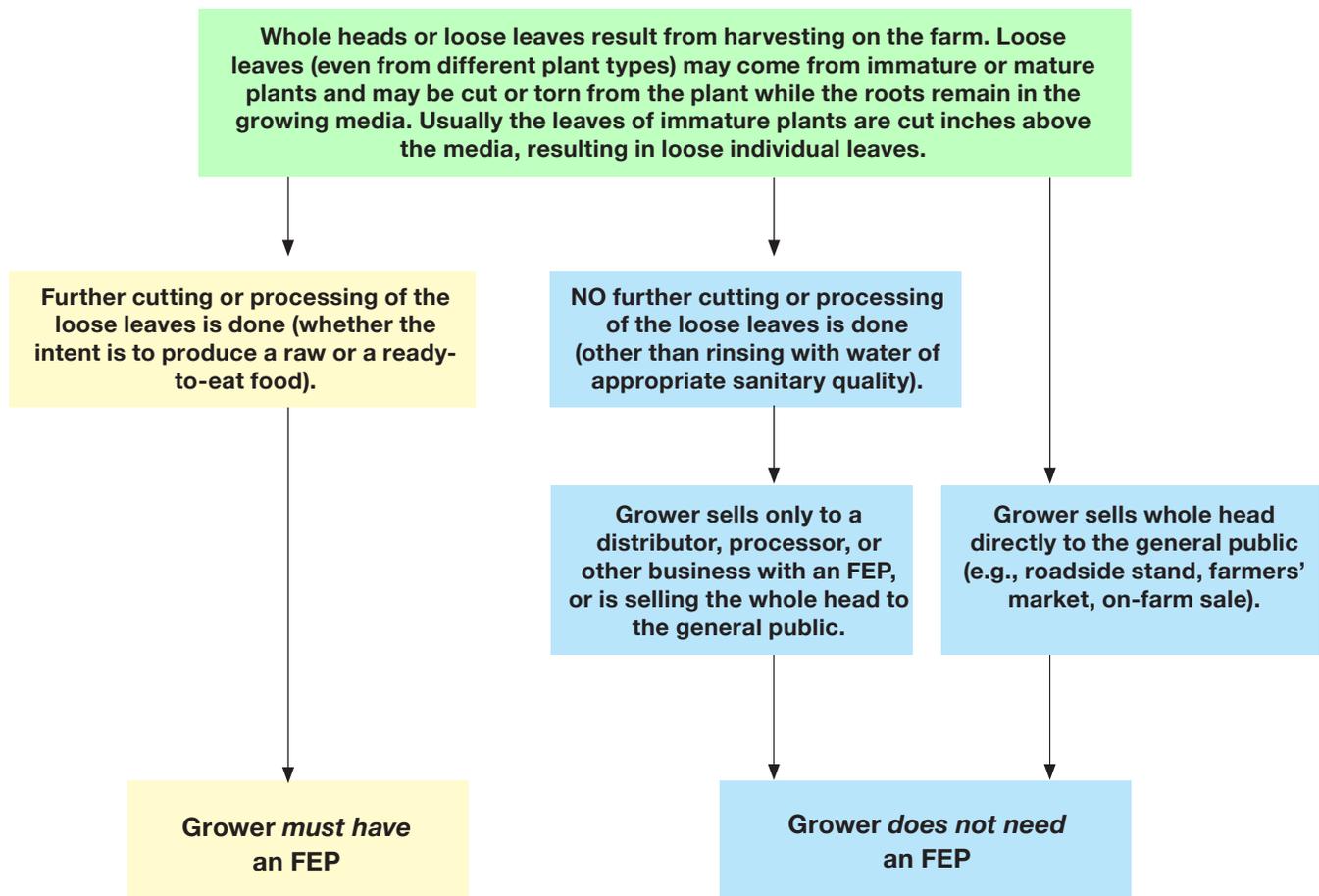
### Permit requirements for growers producing cut leafy greens

Growers selling whole heads of leafy greens (that stay whole off the farm) are *not* required to get an FEP. Current DOH rules already require a grower or processor who cuts, slices, or otherwise “processes” greens (other

than incidental trimming) as a fresh-cut product to obtain an FEP.

The flow chart below illustrates various scenarios for harvesting, packing, processing, and marketing of cut leafy greens and shows when a grower would be required to get an FEP.

## Who Needs a Food Establishment Permit (FEP) from the Hawai‘i Department of Health?



As a best practice, all cut leafy greens packages should be labeled to identify the product to the consumer as either “ready to eat” or a “raw” product they should “rinse well before eating.”

## Definitions

**FEP:** Hawai'i Department of Health Food Establishment Permit.

**Fresh-cut leafy greens:** Fresh leafy greens minimally processed and altered in form by peeling, slicing, chopping, shredding, coring, or trimming, with or without washing, prior to being packaged for use by the consumer or a retail establishment (e.g., pre-cut, packaged, ready-to-eat salad mixes). Fresh-cut produce may need to be washed under running water but does not require additional preparation, processing, or cooking before consumption (2009 FDA Food Code).

**Grower / producer:** The individual or business that grows and harvests produce and other agricultural products.

**Leafy greens:** Produce including iceberg lettuce, romaine lettuce, leaf lettuce, butter lettuce, baby leafy lettuce (i.e., immature lettuce or leafy greens), escarole, endive, spring mix, spinach, cabbage, kale, arugula, and chard; does not include herbs such as parsley or cilantro.

**Processed:** Produce that has been additionally cut, shredded, sliced, or chopped or otherwise altered from its original whole state.

**Potentially hazardous food (PHF):** Foods such as cut leafy greens that require temperature control because they are capable of supporting the rapid growth of infectious or toxin-producing microbes.

**Raw:** Produce that requires washing or other preparation before serving and eating.

**Raw leafy greens:** Fresh produce to be sold to consumers in an unprocessed (i.e., raw) form. Fresh produce may be intact, such as whole heads of lettuce, or cut from individual roots or stems during harvesting, such as loose baby leaf lettuce.

**Ready to eat (RTE):** Loose or fresh-cut leafy greens that have been washed such that the product can be consumed directly from the package. Only an entity having a Food Establishment Permit can produce a ready-to-eat food.

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