




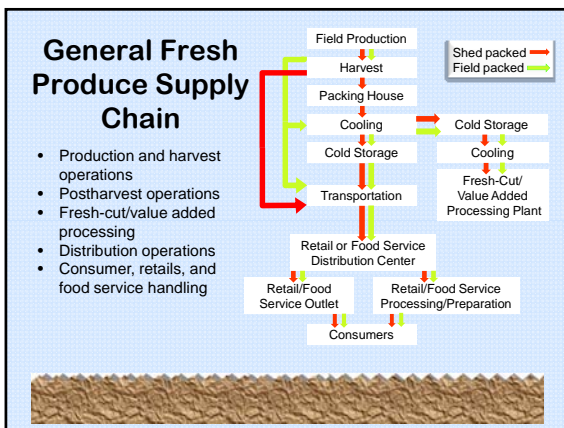
UNIVERSITY OF
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Lincoln EXTENSION

Good Agricultural Practices for Vegetable Growers



Developed and Produced By
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FOOD SAFETY BEGINS ON THE FARM



What are the Guiding Principles of Food Safety for Fresh Produce?

- ❖ *Once contaminated, removing or killing pathogens on produce is very difficult.*
- ❖ **Prevention** of microbial contamination at all steps from production to distribution **is strongly favored** over treatments to eliminate contamination that may have occurred.
- ❖ Document **1) implementation** of prevention programs and **2) education of workers at all levels** of the agricultural and packing environments on food safety.

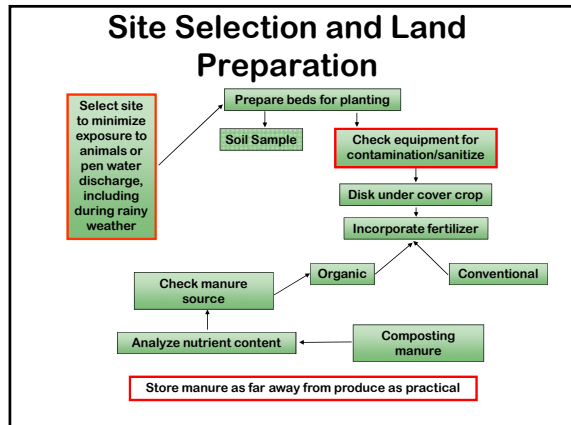
These are key signatures of a credible food safety program

GOOD AGRICULTURAL PRACTICES (GAPS)

- Identify points or procedures where there is **potential** to compromise food safety, increasing either microbial or chemical risk
 - These are places where *you* can prevent, eliminate or reduce the hazard
- Establish corrective actions & monitor to ensure consistency
- Keep records to verify that the procedures are being followed

GOOD AGRICULTURAL PRACTICES (GAPS)

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Composting Manure

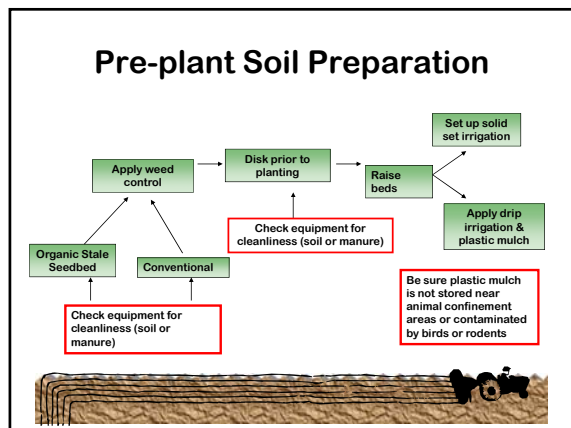
Treat manure to reduce pathogens

Thermal Composting of Manure
135 – 160 °F & Aerobic

Be Safe: Do not apply manure or manure-based compost to land within 17 weeks (120 days) of harvest

Keep composting process far away from fresh produce

Make sure composted manure is not re-contaminated by rodents, wildlife, or birds



Irrigation Water Source

Clean irrigation lines

Farms should be operated in compliance with the laws (Occupational Safety & Health Act)

Test water source regularly for pathogens & other contaminants

Hand washing & bathroom facilities

Commercial Units of All Types

GAP Compliant Restroom
Fully Loaded & Ready-To-Go!
\$1995⁰⁰
(\$1195⁰⁰ cash price)

Bathroom humor
"Fully loaded" just doesn't seem like a selling point for a portable toilet.

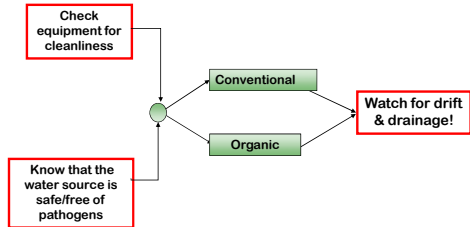
~\$149

www.userfoot.com

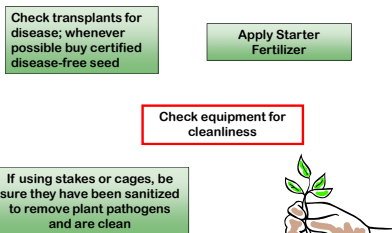
Commercial Units of All Types



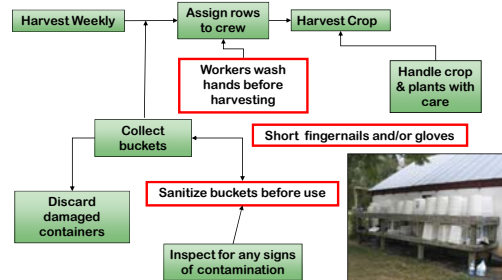
Pesticide Sprays



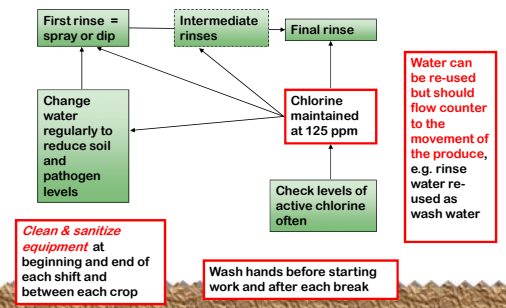
Plant or Transplant Crop



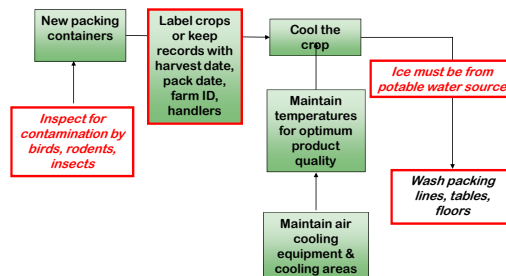
Harvest Procedures

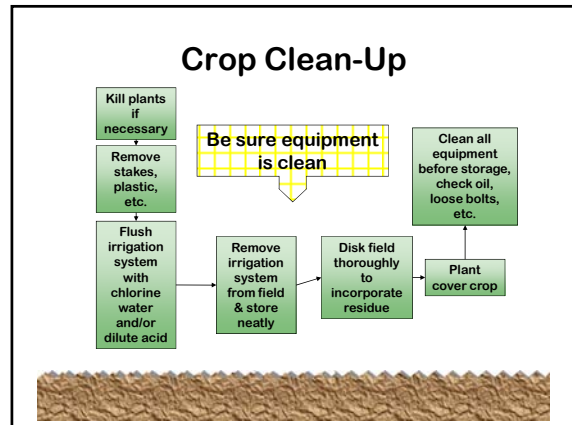
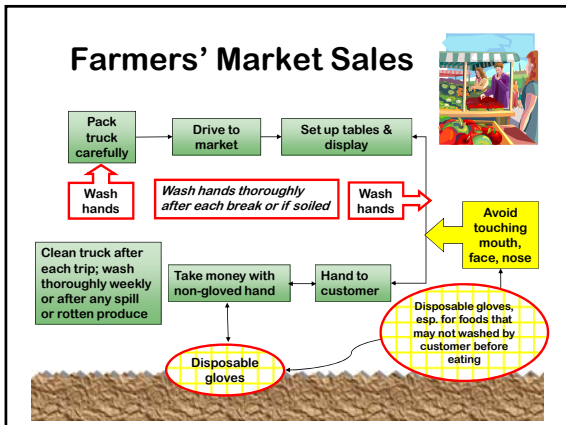


Post-harvest Handling & Packing - Washing



Post-harvest Handling & Packing





- ### Record Keeping
- **Document**
 - manure use
 - water test results
 - worker training programs on proper handling and sanitation procedures
 - Records can provide important data to indicate that steps were taken to minimize chances of contamination on the farm
 - Documentation highlights your commitment to reducing microbial risks to fruits and vegetables

GOOD AGRICULTURAL PRACTICES (GAPS)

Let there be no holes in your GAPS!!

FOOD SAFETY BEGINS ON THE FARM

- ### Resources
- Good Agricultural Practices for Food Safety of Fresh Produce NebGuide G2020
 - <http://www.ianrpubs.unl.edu/sendIt/g2020.pdf>
 - Food Safety for Farmers Market Vendors NebGuide G1706
 - <http://www.ianrpubs.unl.edu/sendIt/g1706.pdf>

Where can I find information and forms for the USDA's fresh produce audit verification program?

A. The USDA [Agriculture Marketing Service](#) monitors and publishes information about the market value of produce, meat and poultry. The State departments of agriculture have developed a [Fresh Produce Audit Verification Program to help the produce industry verify voluntary adherence to the FDA's Guide to Minimize Microbial Food Safety Hazards for Fresh Fruits and Vegetables](#). Under this program, FSIS determines if a facility is maintaining "Good Agricultural Practices" and/or "Good Handling Practices"

<http://www.ams.usda.gov/AMsv1.0/getfile?dDocName=STELPRDC5050869>

Example of GAPS Audit document

More detailed information and examples can be found at

<http://www.gaps.cornell.edu/educationalmaterials.html>

<http://vm.cfsan.fda.gov/~dms/prodguid.html>

<http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELPRDC5050869>

Example of GAPS Audit document

<http://sfc.ucdavis.edu/pubs/articles/foodsafetybeginsonthefarm.pdf>

<http://www.boggiattoproduce.com/GAP.pdf>

Examples and templates can be found at

- Download templates and fill-in MSWord documents to develop personal farm food safety plan
 - <http://ncsu.edu/enterprises/ncfreshproduce/safety/good-agricultural-practices-gaps/audits-plans/food-safety-plans/>
 - <http://safety.cfans.umn.edu/>
- http://www.oregon.gov/ODA/ADMD/docs/pdf/gap_safety_program.pdf?qa=t A short, descriptive example as a writing guide for a farm food safety plan
- <http://www.boggiattoproduce.com/GAP.pdf> example of a commercial farm plan

Resources

- Water – testing, wells, quality

Qheuvd#hsdup hqw#iKhdok#dqg#xp dg#huyZhv#
Glyv/rq#i#xediKhdok
Riifh#iGulqnlj#dwhuBqg#iqylurqp hqwdKhdok
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kws#z z z kkvw#whqjhxvz#xkZiqkZaurFkxuhvk-wp

Minimum Distances Between a Well and Possible Sources of Contamination

- 10 Feet Well pits, frost-proof hydrants, watertight sewer lines, depressions that retain stagnant water, ditches
- 50 Feet Septic tanks, non-watertight sewage lines, streams, lakes and surface water
- 100 Feet Seepage pits, cesspools, tile files, privies or other subsurface disposal systems, feedlots, trench silos, chemical or petroleum storage areas



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