Making Processed Potatoes Safe For All Consumers
HACCP

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The buyers of processed potatoes, and most specifically French Fried Potatoes, demand that processors have HACCP programs in place in the manufacturing facilities. As a second step, some customers require that suppliers to processors have HACCP programs in place.

A Raw Product HACCP Committee was formed to systematically and with the least pain, address these customer requirements. The committee's mission statement is:

Provide guidance and awareness for potato growers so that they can raise raw product used for potato processing that is safe and free from harmful contaminants.

So what is safe and what does it mean to be free from harmful contaminants?

SAMPLE FOOD CONTAMINANTS *

PHYSICAL	CHEMICAL	MICROBIAL
Glass	Solvents	*Salmonella*
Metal	Sanitizers	*Staphylococcus*
Insects	Pesticides	*Listeria*
Rubber	Lubricants	*Yersinia*
Wood	Acids	*Bacillus cereus*
Plastics	Caustics	*Clostridium*
Rodents	Refrigerants	*Campylobacter*

* Contaminant: Any substance not a normal component of a food product or packaging material.

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Specifically for **potatoes,** the **contaminants** normally of concern include;

Metal	Glass	Rodenticides
Oil	Corn Cobs	Corn Crowns
Bones	Wire	Dump Items
Rodents	Dead Animals	Alfalfa Root
Wood	Hydraulic Fluid Plastic	
Herbicides	Pesticides	Pop Cans
Farm Implements		

As processors and as growers, a question certainly asked is,

WHY DO WE NEED POTATO HACCP?

There are several reasons, some more obvious than others.

1. Customer Requirements: This is straight forward enough. Customers demand a product that is as safe as reasonably possible.
2. Regulatory Initiatives: Although not yet a legislated requirement, there is some movement in that direction for many/all processed food products.
3. Moral Responsibility: The last thing, any of us wants, is for our inattention to cause an injury or illness.
4. Financial Impact: Contaminants not controlled early, are costly to remove later, if do-able at all.

THE HACCP SYSTEM

HAZARDS
ANALYSIS
CRITICAL
CONTROL
POINTS

This is a PROVEN system. This system has UNIVERSAL applications.(It can be used in any food growing, processing or preparation operation)

Hazard Analysis Critical Control Points

Defined as: A preventive system aimed at control of Microbial, Chemical and Physical Food Hazards.

Hazards can be **Physical, Chemical or Microbiological.** The majority of hazards that a growing operation can identify and control are physical.

Controlling Points can be **People, Machinery, Methods or the Environment.**

HACCP involves three steps:

1. Hazard assessment- using a step by step approach, all potential hazards in an operation are identified. These should be from the lowest risk to the highest risk.
2. Critical Control Point identification- Each of the hazards identified, is analyzed. The question is asked; "If not controlled at this point, could Injury, Illness or Death result?"
3. Management of the CCP's- Once identified, Critical Control Points must be constantly watched to ensure there is never a lapse...again, if this truly is a CCP, as identified in step 2, injury, illness or death could result from not being ever watchful of that CCP.

The three steps outlined previously are sometimes considered from a more specific, point of view:

HACCP....A systematic approach to food safety based on **seven** key principles.

1. Hazard assessment- Field to Plate. This equates to the first step previously mentioned.
2. Critical Control Point Assignment-
3. Set Critical Limits- These two items (two and three) relate to the second step previously mentioned.
4. Establish CCP monitoring procedures- This could be, with a person, with a piece of equipment, with a system of both.
5. Specify corrective action to CCP deviations- if an identified CCP is violated, some action is mandated.
6. Establish a record keeping system- If no record is used, absolute assurance that no CCP's have been violated, is impossible.
7. Establish verification procedures- periodic review of the CCP's is needed to ensure they are correct and that the limits set are appropriate.

Key principles four through seven relate to management of CCP's.(step 3 above)

The use of a HACCP system to ensure food safety is expected and demanded by customers:

<u>McDonald's Corporation</u>

"McDonald's Corporation purchasing specifications require that a Hazard Analysis Critical Control Point (HACCP) System must be established for each product produced at each supplier plant. Furthermore, we recommend that any secondary raw material suppliers to the McDonald's system also implement a HACCP system as an effective method of assuring food safety."

Campbell Soup Company

"Any supplier whose ingredient may be subject to physical, chemical or microbiological hazards, must control their processes and distribution methods under a HACCP plan."

"Where the supplier has other suppliers providing them with ingredients or materials for processing, they are encouraged to promote HACCP to those suppliers. This will further assure food safety throughout the food distribution chain. Our motto is: FOOD SAFETY FROM FARMER'S GATE TO CUSTOMER'S PLATE."

And certainly the Federal Government has to be a part of the action in the food safety arena. On 4 August 1994, the FDA published an "**Advance Notice of Proposed Rules**" regarding HACCP. In summary;

> Published in 59 FR 39888, "Food Safety Assurance Program; Development of Hazard Analysis Critical Control Points, Proposed Rule".
> HACCP to be authorized under Sec. 402 & 701(A) of the Food Drug and Cosmetic Act.
> Without implementation of HACCP Plan, food would be considered adulterated (without proof of adulteration)
> HACCP System to be out of Compliance if critical limit is exceeded and corrective action not taken.
> HACCP Regulation proposed as alternative to end product testing (not proactive) or promulgation of comprehensive, process-specific GMP's

The FDA also extended a "Request for comments" to the proposed regulation. Items for comment include;

-Extent of Regulation: Industry Segments.
-HACCP Focus: Inclusion of Quality Issues.
-Time Frame for Implementation: What is Reasonable.
-Evaluating Effectiveness: How to Evaluate
-Role & Authority of FDA: Record Access, Complaints
-Training and Education: Mandated, Certification
-International Harmonization: Standardizing
-Costs and Benefits: Expected Expenses and Payback
-Environmental Impact (N.E.P.A.): Energy, Paper, Chemicals, and Disposed Defective Product.

In response to the FDA, the **Northwest Food Processors Association** had this to say:

"HACCP should not be regulated for growers of raw agricultural commodities, such as fruits and vegetables. They will already fall under the HACCP plans of food processors, many of which will have mandatory HACCP requirements for suppliers. Industry prefers a partnering approach with our growers, to prevent unnecessary cost to the system. Certain hazards to raw commodities, such as pesticides and other agricultural chemicals, already fall under EPA Regulations concerning application levels."

The response by NWFPA says well, how processors feel about HACCP. It should not be a regulated program mandatory for growers. Rather, since processors are required by customers to have HACCP programs, there is no need for growers to also have extensive programs with layers of documentation. Rather, if growers do what they can to prevent items, which can end up being hazards, from entering a processing facility, the processors can do the documentation required by customers and perhaps government agencies.

The following checklist, is an example of the expectations that processors feel should be met, to provide for food safety beginning at "The Farmer's Gate". Each processor will manage this somewhat differently, but the same underlying ideas will be in each plan/program.

If we fully aware of hazards, which could result in product contamination, proper reactions, in a timely manner, can eliminate/reduce the ultimate potential of consumer injury.

POTATOES-HAZARD PREVENTION

The following items are certified to be in place or have occurred to assure Food Safety of Potatoes intended for processing. A check mark before each item signifies your assurance that these steps have been taken.

PLANTING AND DIGGING

1. Potatoes are not planted in a field know to be a former dump site or otherwise contaminated.

2. Visual inspection occurs either on the digger or at a transload site. All glass metal, plastic, etc. found in the field is placed in a refuse container and removed to avoid recontamination of the field.

3. Planting, digging, and transport equipment has been inspected to assure that all loose metal and wood is removed and fluid leaks are repaired. Lights and light covers are in good condition so glass will not contaminate the field.

4. All pesticides and herbicides have been applied in accordance with product labels and records are maintained in compliance with current Government requirements.

STORAGE OPERATIONS

1. Building has been inspected prior to loading with potatoes. Storage site is properly graded to control excess water. All lights are protected with shatterproof covers. All walls are in good repair with no loose insulation, damaged metal and/or splintered wood.

2. The floor of the building has been inspected for foreign material prior to loading with potatoes. There are no residues of fuel, oil, pesticides or fertilizers on the floor or in the building which could contact the potatoes. The floor has been dragged with a magnet to pick up tramp metal.

3. Piling and loading equipment has been inspected and all loose parts and/or leaks have been repaired. Lights on piling equipment are properly protected with nonbreakable shields to prevent glass from contaminating the potatoes.

4. Toilets and waste/garbage collection facilities are available for workers during storage of potatoes.

5. Pest control doesn't include the use of poison bait inside storage buildings. Wind-up or spring type traps are acceptable.

Grower Name/Contract #_____
Storage Name_____ Storage Location_____

Signature_____ Date_____