

# **Prevention not Detention**

**Michael Jahncke**

**Virginia Tech**

**Virginia Seafood Agricultural Research  
and Extension Center**

**Scientific Advisor-WFLO**

# **Safety and Quality Concerns**

---

---

---

- **Unapproved Antibiotic Residues**
- **Pathogens**
- **Spoilage and Decomposition**
- **Filth**

# **U.S.A. Import Requirements**

---

---

---

- **All foods imported into the U.S.A. are required to meet the same standards as domestic products - they must be:**
  - **Pure,**
  - **Wholesome,**
  - **Safe to eat and**
  - **Produced under sanitary conditions**
  - **Seafood must also be produced under HACCP**

## DETENTION WITHOUT PHYSICAL EXAMINATION (DWPE)

---

---

---

- A product may be detained as soon as it is offered for entry into the United States based on past history and/or other information indicating the product may be violative



**Summary of completed testing of seafood samples for aquaculture drugs in FY 2005 (Source: FDA/JIFSAN, Koonse 2008)**

<u>Species</u>	<u>Aquaculture</u>	<u>Drug#</u>	<u>Samples</u>	<u>#Countries</u>	<u># Positives/Country</u>
Catfish/Basa					
	Fluoroquinolones	98	2	9 / Vietnam	(9)
	Malachite green	6	1	3/ Vietnam	(3)
	Quinolones	6	1	0	
Crayfish	Chloramphenicol	1	1	0	
Salmon	Ivermectin	46	4	0	
	Quinolones	54	3	0	
	Malachite green	10	2	0	
Shrimp	Chloramphenicol	219	12	5 / Vietnam	(3), Malaysia (1), Thailand (1)
	Nitrofurans	50	7	3	China (1),Indonesia (2)
	Fluoroquinolones	28	5	0	
	Quinolones	10	3	0	
	Oxytetracycline	11	2	0	
Tilapia	Quinolones	1	1	0	
Crab	Chloramphenicol	111	12	11 / Vietnam	(7), Indonesia (3), UK (1)
Sole	Malachite green	3	1	0	
Grouper	Fluoroquinolones	1	1	1/ Vietnam	
	Malachite green	1	1	1/ Vietnam	
Eel	Malachite green	1	1	1/ China	

# Detentions

**Over the last ten years about 10 % of all imported shrimp samples into the USA have tested positive for *Salmonella*.**

**(Source: Koonse 2008)**



# Bacteria can Double Every 20 Minutes

---

---

---

Time	Bacteria
Noon	1
1:00	8
2:00	64
3:00	512
4:00	4,096
5:00	32,768
6:00	262,144
7:00	2,097,152
8:00	16,777,216

# Insect Filth

---

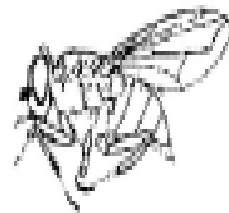
---

---

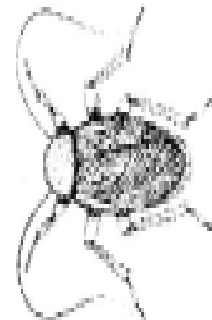
Examples of Filth:



Ant



Fly



Cockroach



Rodent



## Post Harvest Losses

Country	Fisheries/products	% physical <sup>2</sup> loss; Estimated Tons/Year	% quality <sup>3</sup> loss; Estimated Tons/Year	Macro Impact US \$
<b>Ghana</b>	Smoked fish	3 – 17	37.5; 5,206T	60 Million
	Watsa (gillnet) fisheries	16 – 20	30.7; 5.742T	9.4 Million
<b>Kenya</b>	<i>Rastrineobola argentea</i> /Omena before processing	0 – 7.5	1.5 – 18.9 (7); 3,600T/year	350,015
	Jarife (gillnet) fisheries (Indian Ocean)	1 – 5	28; 33.6T	19,110
	Tilapia traders	Minimal	27; 12.3T	36,760
<b>Mali</b>	Fresh fish	2 – 3	7.5 – 25 (17); 1,190 T – 6,630T	572,550
	Smoked <i>Clarias</i>	1 – 3	8.5; 327T	364,400
<b>Tanzania</b>	<i>Rastrineobola argentea</i> /Dagaa	20-40; 14,000 – 28,000T	20 14,000T	10 – 16 Millions
<b>Uganda</b>	<i>Rastrineobola argentea</i> /Mukene	26 – 40; 3,400 – 11,000T	2 – 5; 340 – 850T	300,000 – 1.5 Million

Source (FAO, CIFA/XV/2008/8)

# Food Safety

---

---

---

- Hazard Analysis and **Critical Control Point**
- **HACCP** is a management tool used to protect the food supply against biological, chemical and physical hazards

# **Eight key sanitation conditions and practices:**

---

---

---

- 1. Safety of water**
- 2. Condition and cleanliness of food-contact surfaces**
- 3. Prevention of cross-contamination**
- 4. Maintenance of hand-washing, hand-sanitizing and toilet facilities**
- 5. Protection from adulterants**
- 6. Labeling, storage and use of toxic compounds**
- 7. Employee health conditions**
- 8. Exclusion of pests**

**GAqP??? What is it?**

**Good Aquaculture Practices**



**At the farm level, a voluntary sanitation and food safety program for producers of aquaculture.**



Shrimp contaminated via dirty tote box and ice made from non-potable water (Source: Koonse 2008)



Pondwater not protected from animal waste (Source: Koonse 2008)



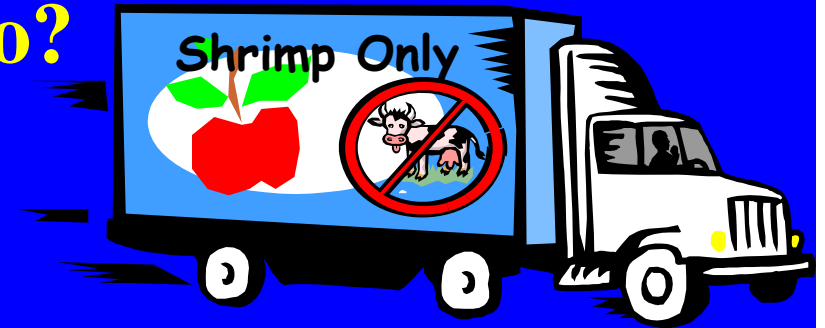
Human waste going on-ground (Source: Koonse 2008)



Black pellets are rodent droppings around feed (Source: Koonse 2008)



# Minimize Risks During Transportation: What can you do?



- ☑ Use potable ice and/or refrigerated trucks to transport products
- ☑ Ensure that transportation vehicles are clean
- ☑ If trucks are used to transport a variety of food products (i.e. eggs, raw meat, poultry), clean and sanitize trucks between uses
- ☑ For bio-security purposes, clean and sanitize trucks between farms and farm visits

## **Examples of Extension Agent Training Needs**

---

---

---

- **Hands-on training on GAqPs, SSOPs, HACCP, GMPs, employee hygiene, sanitation, food safety, food quality, controlling post-harvest losses**
- **Development of interactive communication skills**
- **Training on how to build trust with clientele**
- **Training on selecting and establishing demonstration sites and eliciting farmer testimonials**

# Global Food Standards

---

---

---

- **BRC**
- **SQF2000**
- **ISO 22000**
- **GMA-SAFE**
- **NOTE: Standards maybe too sophisticated for many subsistence and small producers and processors, but there are components that can be applied to all operations**

# The End

---

---

---

## QUESTIONS?

