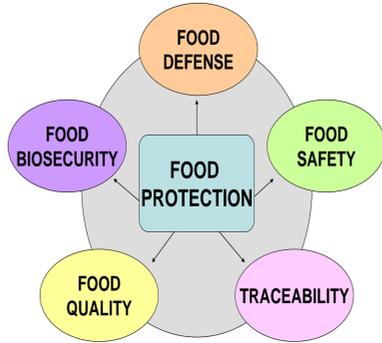




Introduction

- ❖ The objective of this research was to assess Food Defense in the catfish processing chain.
- ❖ Preliminary investigations have indicated that there are areas susceptible to terrorism, contamination or loss of traceability on farms and facilities.
- ❖ Many catfish farms and processing facilities are at risk to undetected entrance by unauthorized personnel.
- ❖ Food Defense addresses the threats of intentional adulteration of agricultural products in the food supply chain.
- ❖ USDA defines Food Defense as the protection of food products from intentional adulteration by agents of:
 - Biological
 - Chemical
 - Physical
 - Radiological
- ❖ Through assessments determining vulnerable points in production and food processing facilities, Food Defense plans strengthen weaknesses within the food supply chain.



Results and Discussion

❖ Food Defense Survey (n=23)

Does your company:	Yes %
Have security surveys from law enforcement?	24%
Secure and lock fish tanks during transport?	48%
Have a working Traceability Plan?	48%
Have a Biosecurity Plan for fish?	52%
Perform employee background checks?	52%
Back up important files and store them off site?	57%
Have proper signage like "No Trespassing"?	62%
Have an entrance/exit guard?	62%
Have a security guard?	67%
Have surveillance cameras?	67%
Educate employees to look for tampering?	68%
Maintain an up-to-date inventory for hazardous materials?	71%
Have a Food Defense Plan?	74%
Check incoming ingredients for wholesomeness?	76%
Place and record seal numbers on trucks?	78%
Use visitor badges to identify visitors?	81%
Have an updated emergency employee contact list?	81%
Conduct security checks around the business perimeter?	86%
Use personal access cards for employees?	86%
Have adequate security lighting?	86%
Have proper employee safety training? (fire and emergency drills)	91%
Have security fences around the premises?	91%
Secure and lock water, products, ingredients, and hazardous materials?	91%
Monitor entrances?	95%
Keep production records?	100%

- Most participants were involved in catfish processing and worked at establishments with 250-500 employees.
- ❖ **Pre and Post Assessment Scores:**
 - Pre assessment scores averaged 77%
 - Post assessment scores averaged 93%
 - Sixty eight percent (68%) of participants scored equal or higher on the post-assessment after successful completion of the workshop.

Food Defense Plan Benefits

While the United States has the safest food supply, there are still areas of opportunity for intentional and/or unintentional adulteration of food, crops and livestock.

Functional Food Defense Plans may

- ❖ Establish extra measures to reduce the chance of intentional or unintentional contamination to the food supply.
- ❖ Prevent the disruption of the economy and/or damage to the business.
- ❖ Contribute to a safer and more secure food supply.
- ❖ Reduce the risk of unsafe products in the market, economic losses and theft.
- ❖ Reduce the need for additional regulation on Food Defense and reduce company liability.
- ❖ Address additional concerns of physical, personnel, and operational security.

Methods

- ❖ Preliminary investigations and audits included plant tours and evaluations of catfish processing plants.
- ❖ Points of evaluation were from the fundamentals of Food Defense which include:
 - Awareness
 - Inventory Control
 - Locks
 - Surveillance
 - Barriers
 - Law Enforcement
 - Planning
 - Training
 - Community
 - Lighting
 - Signage
 - Visitors and Personnel
- ❖ Food Defense training materials were developed to strengthen security of farms and food processing facilities based on observations.
- ❖ Each workshop was divided into four sections: Food Defense, Disaster Preparedness, Intentional Contamination and Traceability/Recalls.
- ❖ Materials addressed potential weaknesses because those who threaten our food supply recognize and take advantage of easy targets.
- ❖ The Food Defense workshops included presentations, supplementary materials and sample plans.
- ❖ Participants were asked to complete a survey on various food defense aspects of their facility ranging from employee education to security of materials.
- ❖ Pre and post assessments were also given to determine the participants' knowledge of food defense before and after the workshop.

Conclusions

Survey results indicate there is a need to continue education throughout the industry to protect the food supply from threats. Through effective food defense training and education, farmers and food processors are better able to develop a defense plan that is best suited for their operation. The Food Defense training proved successful as indicated by the increase in post assessment scores.

Selected References

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