

Collier County Agriculture and Agrosecurity

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. As a major agricultural county on the Florida Gulf Coast, the area's sub-tropical climate is ideal for the production of a diverse of agricultural enterprises. Many of the winter fruits and vegetables that the eastern half of the nation enjoys are produced or are processed within Collier County borders.

The principal vegetables produced within Collier include snap beans, cucumbers, eggplant, sweet and hot peppers, potatoes, squash, tomatoes, cherry tomatoes, plum tomatoes, and other variety of vegetables. These products are harvested and processed through the more than 20 vegetable and fruit packing and processing operations in Immokalee or nearby. Operations ship their products to destinations all over the U.S and Canada.

The more than 34,000 acres of citrus grown and harvested in northeastern Collier include the early, late and navel oranges, white and colored grapefruit, tangelos, tangerines, lemons along with many varieties of specialty fruit. Watermelon and other seasonal melons provide a key crop to Collier producers while more than 50 nursery, greenhouse, floriculture, and sod operations in Collier make up a major portion of the total agricultural products sold in Collier.

Although the major livestock produced in Collier still includes beef cattle, the number of small animal livestock (goat, sheep and poultry) species continue to increase on the small "part-time" farm. There are more than 10,000 head of cattle raised in the area, but the smaller farms, less than 10 acres are raising goat, sheep and poultry in eastern Collier County including the Golden Gate, the Estates and surrounding Immokalee proper. The equine industry is also showing signs of growth within the small acreage sector of the eastern Collier County. Especially important are the 2-5 acre lots with one to two pleasure horses being maintained. Although most of these operations are considered non-revenue generating entities for their owners, the economic impact of their purchases at local feed and tack shops is significant.

Within the last decade, Collier's climate has been the draw contributing to the county's excellent recreational, tourist and residential destination status. These latter factors have resulted in major changes in Collier's agricultural landscape, its transition to a production further north in the county and now its increase need for security awareness.

Security awareness, from what you might ask? The days when the concern on farms on the outskirts of neighboring populations was about simple vandalism are far gone. The concern now focuses on potential terrorist contamination of our food supply.

Why are we concerned about terrorism associated with the food supply? First we must remind everyone that loosely defined; terrorism is the use of violence and/or intimidation to achieve an end. It is thought that historically most acts of terrorism have been politically focused by foreign states; however it is now more common to hear of plots of terrorism from all walks of life and cultures. Unfortunately terrorism comes in a variety of sizes whether on a small scale towards individuals or on a large scale with large scale events that affect multitudes of the population. The approach of terrorist and their targets are changing therefore the connection to the food supply is genuine. The food supply offers an obvious and convenient mechanism for a variety of chemical and biological agents. The fact that the food production and delivery system is very complex and is a multi-layered system that involves a variety of farmers, processors, distributors and retail outlets, there exists lots of opportunities for an intentional introduction of a contaminating substance. In addition, the simple availability and relative accessibility of contaminating agents make the food supply a good mark for contamination or just to escalate the fear that our food supply is not safe.

Agribusinesses across the country find themselves faced with the reality of unique security threats that heretofore have not existed for the industry. The Office of Homeland Security and other governmental agencies that track these threats have coined the term “agrosecurity” to identify biological and agroterrorism threats on agriculture. In fact, food/agriculture is on the national “critical infrastructures” list under the Homeland Security Act. The US Department of Agriculture has been restructured and refocused in the last couple of years on food safety and preventive measures for terrorism. These changes were in response both to highly publicized outbreaks of food borne illnesses and increased vigilance toward the potential deliberate contamination of the nation's food supply by terrorists.

What is agrosecurity? Agrosecurity involves a variety of concerns that include agricultural terrorism, criminal activity targeted to farming, biosecurity issues and or natural disasters. The aforementioned acts, whether natural or man-made will impact the agricultural sector. The effects of such events may or may not be immediately evident or may be misunderstood by many in the public sector. As with most events, prompt identification and assessment of the situation may be difficult particularly in the case of a bio-terrorist episode since symptoms, characteristics, and trends exhibited may be similar to common problems or diseases found under normal conditions in the agricultural sector. As you might suspect, agroterrorism presents unique problems to the emergency management network and to those who work in agriculture-related business.

An agroterrorism attack could result in any of the following:

- Reduce production of food although unlikely to be an issue in a country such as the United States, starvation could occur in poor countries with limited resources.
- Lead to dramatic economic loss within the affected agricultural sector or sectors through direct loss of crops or animals, cost of containment activities, or reduced domestic demand.

- Result in export embargoes that would remove agricultural products from the global market.
- Lead to destabilization of related economic markets such as revenue losses to shippers, processors, exporters, and others.
- Create social instability by causing the population to lose confidence in the safety of the food supply and by inciting fear and a sense of vulnerability. (Resources: Chalk 2001; Wheelis: Agricultural biowarfare and bioterrorism)

A bioterrorist attack on agricultural targets in the United States has been considered by some to be a "high consequence–high probability event" for the following reasons:

- The technological barriers to obtaining and weaponizing agricultural pathogens are relatively minimal.
- Many crop and animal pathogens can be isolated from the environment or obtained from laboratories without substantial difficulty.
- An attack against crops or livestock could be carried out relatively easily without sophisticated equipment or expertise.
- Only a small quantity of the affecting agent would be needed, since many of the agents of concern are highly transmissible between animals or, for plant diseases, via the air.
- Crops are openly exposed and relatively vulnerable to an attack.
- Livestock and poultry often are raised under conditions involving high concentrations of animals (eg, feedlots may hold up to 300,000 head of cattle, chicken farms may house up to several million birds).
- Certain sectors of the food-production industry are geographically localized, so an attack on one sector could have a dramatic impact on a local, state, or regional economy.
- Current animal husbandry methods have increased stress levels in livestock and poultry, increasing their vulnerability to infection.
- Limited genetic diversity in US agriculture promotes susceptibility to specific pathogens.
- Animals and animal products often are dispersed to many different locations over a short period of time, thereby enhancing the potential for spread of a communicable agent.
- Damaging crops and livestock is not as morally serious as committing terrorist acts involving loss of human life; therefore, agroterrorism may be more acceptable to some potential perpetrators than other forms of terrorism.

In addition to a direct impact on producers, an attack on a sector of US agriculture would have a ripple effect on other industries. For example, an attack would affect shippers, wholesalers, distributors, exporters, retailers, and possibly other aspects of the economy, such as tourism. (Adapted from resources: Casagrande 2000, Parker 2002, Wheelis 2002)

The consequences of an animal disease outbreak are much higher than just the cost of medicines, replacing livestock and the disposal of animals. The cost to the collateral operations such as feed stores, animal husbandry operations and veterinary clinics can be devastating. The simple thought of potential spread of disease to other countries due to an act of bioterrorism can literally shut down exports and trade.

Locally, most of Collier County producers incorporate Best Management Practices (BMP) and Integrated Pest Management (IPM) practices into all animal and crop production efforts. BMP is a combination of environmental, economic security and production practices determined to be an effective and practicable (including technological, economical, and institutional considerations) means of preventing or reducing the amount of negative impacts on environment and food quality. Through the use of practices such as IPM farmers minimize environmental impact of their operations based on either quantitative or qualitative observations of pest problems.

Agroterrorism or contamination of crops, livestock, dairy and poultry products may have major consequences on the food supply that is normally safe and available for consumption, precipitating a variety of real or perceived health and economic concerns.

The agriculture and food industries could be very vulnerable to terrorism and other disasters if not for the safeguards in place. During the past four years, more and more farmers and ranchers understand the importance of agrosecurity to the life blood of their operations. Many breaches of security on farm can be and are routinely handled through collaborative efforts between agricultural producers, law enforcement, and emergency response agencies. One such security measure involves the fact that many agribusinesses restrict entrance to their properties and processing plants to eliminate the possibility of someone unknowingly transferring disease to the operation. These measures may include security lighting, fences, walls, locked doors or alarm systems within the farm buildings. To fight transport of infectious contamination with their own vehicles, owners have implemented security measures within their citrus groves such as gate locks and vehicle spray equipment that serves as a mobile decontamination wash. This wash acts to prevent grove to grove contamination.

The computer age has also brought the advent of computer hacker or individuals that wish to invade agricultural business computers. The installation of computer protection systems as well as limiting access are all part of a continuing security awareness for the industry. The University of Florida IFAS Extension (UF/IFAS) Florida Department of Agriculture and Consumer Services (FDOACS) and United States Department of Agriculture (USDA) whose outreach infrastructure and agricultural resource base has methods and expertise in place to assist with antiterrorism prevention, natural and man-made disaster awareness, food security preparedness, response and recovery education and components of animal response to disasters.

Many security and terrorism experts consider a terrorist's main goals to be to instill fear, damage the economy, or directly impact the lives and health of people. Agribusiness' goal should be to make our industry less vulnerable targets through

awareness of crop pests, food borne illnesses and increased vigilance toward the potential deliberate contamination of the nation's food supply.

What is the consumers' role? It is important consumers to be aware of the foods they consume. The essential step for their protection is awareness of any damage, or adulteration to packaging prior to consumption. The U. S Food supply is the safest in the world and in order to keep it that way we all must be vigilant in our efforts. The urban influences on agriculture have shown a need for continual dialogue on rural – urban interface issues. The futures of these depend on recognition that both can exist with mutual understanding of economic and production issues.

Resources

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