It’s a Bird, It’s a Plane, It’s a Drone

The food processing industry is constantly flooded with new technology that is created to streamline the process of getting food from the farm to the table in a cost effective and safe way. Many of the up and coming technologies aim to reduce the amount of time and man power required to complete a task while improving food safety. Companies are interested in this type of technology because of the increased attention to animal welfare, labor-saving benefits, financial gains and ease of monitoring equipment. In turn, by cutting cost on production, the price of the products offered to consumers are lowered. This type of new technology will benefit all aspects of the food processing industry, as well as increase consumers access to higher quality and more cost friendly products.

The early stages of putting food on a consumers’ table begins in the fields. Companies aim to increase the effectiveness of their production lines by implementing new technology. One of the up and coming areas of technology that has been implemented into agriculture production and processing is the use of robotics in food processing. Drones are one of the newer technologies that have been implemented within the food production community. Howell (2018) states that a drone is an unpiloted aircraft that has multiple uses. These unmanned aircrafts have been used in the military, commercial, and leisure activities due to a lower risk of technical difficulties because there is no pilot on board the air craft (Howell, 2018). This type of robot has been chosen for use in the food processing industry for many of the same reasons.

The use of robot drones can effectively increase cost versus yield rates for farmers by lowering the amount labor required to reach the same outcomes. By implementing the use of a drone on a cattle farm, for example, a farmer is able to monitor herds of livestock from a stationary position, therefore; increasing line of site, animal detection, and personal safety all while lowering physical exertion (n.d., 2018). This method of monitoring livestock production helps save time and reduces the amount of labor required, versus a more traditional approach such as driving a vehicle through livestock herds.

The option to monitor livestock from the air has increased benefits for maintaining animal welfare. Many drones are equipped with software that can gather information from different heights, such as identifying patterns and trends amongst livestock (n.d., 2018). These robots can also be used throughout other facets of the agriculture industry such as crop production. The drones can be used for crop and soil assessment throughout the lifecycle of production. These drones can be equipped with software that allows farmers to monitor their crops for disease, identify water patterns in fields, and also monitor soil conditions to name a few (n.d., 2018). Once data is gathered, it can easily be analyzed to make decision regarding the care of the livestock or crops.

Despite a drone being an investment, farmers are able to cut cost on time and labor by using technology to ease the process of production, especially with the use of chemicals. The use of drones to spray chemicals was first introduced in European food processing. Since then, drones have been used to turn the labor-intensive process of hand spraying chemicals into a precise process that can target specific areas of crops or spray chemicals at a specific angle to combat the wind (n.d., 2018). Besides being less labor intensive for farmers, it also no longer exposes them first hand to the to a large amount of chemicals that was once required. The automation of this process has produced great results for farmers because they are able to precisely defend their crops against pests without the need for skilled manpower and wasted time. The streamlining and simplification of this process produces a larger profit margin for the hardworking farmers of America (Radke, 2018).

Another advantage to the development of drones in the food processing and production industry is the ability to monitor the cleanliness of the equipment. If the cleaning is insufficient, there is a risk of biofilm or contamination from the equipment’s surroundings. This contamination can grow in inaccessible areas very high above the ground or in hollow spaces and cavities or where the cleaning is inadequate because of defective CIP nozzles (Force Technology). In order to detect these issues UV-lighting is needed. Drones have the ability to fit into those small spaces and detect contamination by using UV-lighting. If contaminated product gets out to the consumer, this can result in a costly recall to the producer.

Once upon a time, the only drone that was on a farm was a male bee, but times are changing, along with the technology. The use of robot technology, specifically drones within the agriculture industry has just begun. There are multiple facets of the agriculture industry that could benefit from the use of drone technology. Farmers can use this technology in countless ways, such as to monitor herds of livestock grazing patterns, assess crops and soil, and even monitor for disease. The detail of information that is produced from drone software is a vital asset for farmers who are looking to cut down their hands-on workload and increase profit margins. Drone surveillance in processing areas is an efficient way of detecting what could be costly safety hazards. Even though drone technology is evolving to create ease of access and lessen the workload on farmers and producers, there will always be some aspects of the agriculture industry that will forever be done the traditional hands-on way. Consumers today are looking for a healthy, economical food option and the use of drones provides a win-win solution for both the consumer and the producer.

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