



## Agricultural Industry Competitiveness

Enhance the value of Kansas Agricultural goods

# Economic Issues with Process Verification

Food traceability is becoming increasingly important to food production, processing, and preparation industries. With recent discoveries of Bovine Spongiform Encephalopathy (BSE) in Canada and the United States, interest in traceability in livestock and meat in the United States has heightened. To address this need in the meat industry, the United States Department of Agriculture (USDA) has developed a standards certification program called Quality System Verification Program (QSVP). The purpose of QSVP is to provide a USDA-endorsed version of ISO 9000, a global quality standards program that is used in a variety of industries. The QSVP currently stipulates adherence to 20 requirements. Each of these requirements must be addressed in a formal manual prepared by anyone who wants to use the QSVP label. The manual must detail the production system for that particular group of producers and verify the production claims by addressing each of the 20 USDA requirements. The purpose of this publication is to describe the QSVP program and discuss how it is being used by a group of Kansas beef producers.

## Process Verification

A process is an activity that transforms various inputs into an output. For example consider beef production. Meat is an output, and meat quality can be measured by sensory attributes such as tenderness or taste that can be influenced by a variety of production and meat processing techniques. For example, in addition to other activities, tenderness can be affected by animal genetics, the feeding program, slaughter age, dry aging of beef, mechanical tenderization, and cooking. Quality also can be associated with other attributes such as breed (e.g., Certified Angus Beef), production practices (e.g., feeding only organic grains), or geographic labeling (e.g., country-of-origin).

These outputs are driven by the inputs used to produce the desired quality or product characteristics. Feed type, such as grain or pasture grasses, is an obvious input. However, there are other inputs. Labor and management impact an animal's growth rate. The type of genetics being used and the use of growth hormones (or lack thereof) also affect beef production.

Many manufacturing environments in the world employ a process called ISO 9000, which provides standards for quality management. The QSVP program is simply a set of standards for livestock production. Its goal is to develop a set of metrics that can be used to monitor and measure the process of whether the inputs are being used correctly and that the desired outcomes are achieved. For example, a QSVP program for natural beef (e.g., produced without growth hormones) requires some type of process to measure and monitor whether or not growth hormones have been used. For a retailer to state that beef is natural, some sort of verification that the beef has been produced in a way that ensures synthetic growth hormones were not used, must be provided.

One important aspect of source verification through a process such as QSVP, is that it must be linked to consumer desires for the particular claim that is being made on the label.

## Production Processes

Production requirements may vary between groups that apply to be process verified. These requirements are self-designed and are deemed the things that the group is process verified for. Requirements can be as rigorous or as simple as a group desires and wishes to portray in their products. For instance, certain groups require nothing more than verification that an animal is of a particular breed and

origin. Regardless of the requirements however, each group must address the 20 requirements in the QSVP system to verify that their requirements are fulfilled.

The production process can use any method for monitoring and measurement. For example, ear tags linked to a written cattle passport is one way producers can monitor information regarding production practices for each animal. In addition, the production process should include information on how quality will continuously improve in response to consumer needs.

The manual must include what process is being verified and what type of documentation is required to demonstrate that the process is in fact being verified. Once the group has written a manual that addresses these 20 points, they can submit it to the USDA and apply for an audit. Auditors will review the manual, then visit the production sites specified in the manual. They ask various questions related to the production practices documented in the manual and make sure that each participant can present the appropriate documentation specified in the manual. Records must be auditable and can include various data such as ear tag information, production records, purchase invoices, veterinary records, and similar data. Less than one percent of those who apply for certification of any program (e.g., process verified, nonhormone treated cattle, etc.) from USDA are granted certification immediately.

One key issue is how nonconformances, deviations from the program, are handled. For example, suppose a cow loses an ear tag. The information contained in that ear tag such as the fact that it did not have growth implants is now lost and that loss of information can compromise the program's claim that all of the cattle are produced naturally. The manual must document how that nonconformance is handled. In this case, the cow would not be sold through the process verified program, but sold through some other market. There are generally some items that need attention and, once addressed, groups can reapply for certification. Only a handful of groups have been certified as USDA Process Verified nationwide.

### ***Process Verified Manual***

The generic manual ([http://www.agmanager.info/agribus/busdev/process\\_verify/default.asp](http://www.agmanager.info/agribus/busdev/process_verify/default.asp)) developed by K-State Research and Extension economists and scientists, was based off work done with a natural beef program that has been audited and applied for process verification. By working closely with this group, K-State Research and Extension was able to participate firsthand in the steps needed to achieve process verification including the writing of a process verification manual. This generic manual was developed with the intention that other groups would be able to learn from the knowledge K-State Research and Extension received while working to achieve process verification.

The generic manual was developed specifically for natural beef. The group, on which the manual was based, had very rigorous process verification points. The generic manual was somewhat simplified to be applicable to more producer groups. In the end, four process verified points were chosen to represent a natural beef program in our generic manual.

- No growth hormones
- No subtherapeutic antibiotics
- No antibiotics during the finishing phase
- Source of origin verified

When writing and implementing a process verification program, it is important to get verified for things that are already being done within your group or operation. At the same time, the points must be valid and must mean something to a customer or ultimate consumer. More information about process verification is contained on the USDA Web site ([processverified.usda.gov](http://processverified.usda.gov)). It contains information about groups that are process verified as well as some of their process verified points. It also lists the 20 points needed to be addressed in process verification manuals. These 20 points are the same points addressed in the K-State Research and Extension generic manual.

### ***Things to Consider in Process Verification***

Process verification is not likely desirable for every group and achieving process verification is not easy (nor should it be!). There are some issues to consider when undertaking process verification. Most producers do not market all of their animals through one program and it is likely that most producers will not market all of their animals through a process verified system.

*Paperwork:* Depending on how a quality manual is written and set up, becoming process verified can considerably increase the amount of paperwork a producer needs to complete. At the same time, quality manuals can be simplified and paperwork consolidated to make the extra work as easy and quick as possible. Furthermore, some producers consider the added paperwork as valuable records that can be used to enhance the production on their operations. Just keep in mind that with process verification, producers should be prepared to spend more time on paperwork and record keeping than without process verification.

*Production Practices:* When participating in a process verified program, one must follow the practices outlined in the process verified quality manual in order to fulfill their obligations. Sometimes these requirements (such as banning the use of growth hormones or ionophores) may increase production costs for the producers. Importantly, all producers involved in the process must be willing to follow the production practices as specified in the manual at all times, especially since the USDA will audit groups once per year. Just as the proverbial one bad

apple that spoils the lot, if one person in a group is not upholding the integrity of the program, the entire group risks losing process verified status.

*Lack of Economic Incentives:* There is no guarantee of economic incentives for products simply because they are process verified. The process verified points need to be valid points that *matter* to the customer or ultimate consumer so much, that they are willing to pay increased amounts for these products relative to competing products. Process verification alone does not guarantee a positive return. Current research at K-State is measuring costs and benefits of process verification for this producer group.

*Cost to Implement:* When becoming process verified, there are basically three different costs: development, implementation, and auditing costs. The development of a process verified system can be very expensive if a consultant writes the quality manual. If a group decides to write the quality manual on their own, it can be expensive in terms of a time commitment. Obtain quotes from a consultant that has expertise in this subject to determine the cost of having a manual written for your group. Also check with the USDA on seminars that are available on writing process verification manuals.

Implementation of a process verification program can be as simple or as difficult as the quality manual allows it to be. A simply written quality manual that uses production practices and record keeping already in place will be very simple to implement. A more complicated quality manual with new or difficult production practices and lots of new paperwork can be more difficult to implement. If a group is able to pay someone to implement the program and the producers are willing to make it work, the costs should stay relatively low for implementation. Audits can become expensive as they need to occur each year. Cost of the initial audit for the group that K-State Research and Extension worked with was approximately \$5,000. This number may increase or decrease depending on the length of time

it takes for the USDA to audit your program. Contact the USDA for more details on the cost of audits.

*Audits:* When most people hear the word audit, they immediately get nervous. Process verification audits can be stressful because the time, effort, and money put forth to develop the program is at stake. At the same time, if a group does not pass an audit, there are no fines or other sorts of punishments. They simply cannot place the process verification label on their products. In fact, very few groups pass the first audit and so a group should not get too anxious if the results of their first audit result in nonapproval. After any audit however, a group will receive comments and suggestions on what needs to be improved in their program in order to become process verified. These can be used by a group to improve the quality of their process verification system and ultimately in the end to become approved for process verification.

*Group Size:* Any size group can become process verified, from one producer to an entire group of producers. Only one quality manual must be written per group that is to become process verified. Larger groups are able to spread costs over more members as audits are charged on a per manual per program basis. At the same time, it is more difficult to write a quality manual that is agreeable to larger groups of people. For large groups, consider having representatives on a board that assist in development of the process verification manual. In this way, the needs and concerns of most members of the group will be addressed.

## **Conclusion**

Producer interest in process verification is likely to increase in light of recent developments with the single animal found with BSE in the United States. This publication outlined the concept of process verification and described how the USDA QSVP program operates. It is important to remember that the success of such programs begins with consumers and that economic incentives must exist for such programs to succeed.

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