

Ractopamine (Paylean™) Use in Show Pigs: Show Management Considerations for 2020

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Ractopamine is the active ingredient in a feed additive that enhances growth in meat animals by repartitioning nutrients towards lean tissue growth and away from fat deposition. The FDA approved ractopamine use in market swine in 1999. While other countries have previously banned ractopamine use, it was China's decision to only import pork from ractopamine-free hogs that prompted several U.S. packers to capitalize on this large potential market and only accept hogs that were raised without the product in their diets. As a result, live swine shows and fairs may have less market access for market hogs being sold directly from the fair. Show pigs, although a small portion of the U.S. pork supply (approximately 1%), may still enter these markets, and must be able to meet the same market demands as commercial pigs.

For additional background information, colleagues Drs. Locke Karriker and Chris Rademacher from the Swine Medicine Education Center at Iowa State University's College of Veterinary Medicine have compiled an extensive document on the specifics of ractopamine's effects in the body, depletion, testing, and potential for cross-contamination available here: <https://www.ipic.iastate.edu/information/RactopamineFAQ2020.pdf>. Utilizing the information presented by Karriker and Rademacher, this document is intended to incorporate available information into the decision process for management of market hog exhibitions, fairs and shows by providing options for consideration.

Please note: each situation is different, there may not be an ideal option, and each show or fair must make the decision that works for their circumstances.

The Situation:

- 1) Ractopamine is a legal feed additive that, when used according to label instructions, is considered safe by the FDA for both pigs and humans consuming pork from these pigs.
- 2) Due to the effectiveness of the product, many swine exhibitors previously fed ractopamine to show pigs to enhance lean tissue growth and may still have some product on their premises, which may lead to cross-contamination.
- 3) It appears that cross-contamination of ractopamine can occur quite easily through exposure to urine, feces, bedding and of course, feed. Due to very low levels necessary to be effective, it has proven difficult to completely clean the areas and equipment that were previously in contact with ractopamine in order to prevent cross-contamination.
- 4) Ractopamine is a very large molecule and is easy to detect at very small levels, even below the FDA food safety or legal residue levels. Cross-contamination, even in carcasses from pigs not fed ractopamine, may result in a positive test at the packer which would limit the packer's ability to capitalize on export markets.

- 5) A highly contagious disease, African Swine Fever, has ravaged the Chinese swine industry. Before African Swine Fever broke in China in 2018, China produced over 4.5 million pigs annually, or approximately seven times U.S. production. The exact impact of this disease on the Chinese swine herd is still not apparent, but it is certainly devastating. As a result, the potential impact of marketing U.S. pork to China to fill the consumer demand is huge. China has recently banned ractopamine in imported pork as a trade measure.
- 6) Many U.S. packers have decided to only harvest pigs that are ractopamine-free in order to position their product for export to China, especially with progress being made in the current trade war. This is still a rapidly evolving situation, and packer requirements and markets may continue to change. Communication with potential markets is critical. Even different locations owned by the same packer entity may have different market requirements.
- 7) Therefore, this is a TRADE issue, not a food safety or swine health issue.

If pigs from a fair or exhibition will be sold directly from the show to a packer, show management should consider the following points when deciding whether to find new markets, ban ractopamine use, or changing to a non-terminal show and not selling pigs from the fair:

Option 1: Remain as a terminal or partially terminal show, do not ban ractopamine, find packer or alternative market that is ractopamine free

- Show management must find packer or alternative market interested in purchasing ractopamine-fed show pigs.
This would likely be packers that are not selling to an export market. These may be difficult to find. If found, may have smaller capacity or be unable to harvest entire group. Markets may still change requirements as situation evolves. Market or packer could be farther away, increasing trucking cost and potentially increasing pig stress.
- May be a large price discount on pigs.
Packers or other markets will most likely discount show pigs even more than past years, resulting in a very low market price to exhibitors. Show management may want to consider seeking other support for swine market projects, such as the possibility for subsidization of swine projects from donors, supporters or even the commercial industry which would have an interest in keeping the market show terminal from a biosecurity standpoint.
- In general, 4-H and FFA have enjoyed a “wholesome” image. Any positive tests, regardless of the substance, could tarnish that reputation. With this option, there is less concern of jeopardizing “wholesome” image of 4-H/FFA with a positive test and less likelihood of negative press or media.

Option 2: Do not ban Ractopamine, Non-terminal Show

- Serious biosecurity concern by commercial industry associated with comingling pigs from many sources and sending back home after show.
Disease exposure to commercial industry a very large concern. Also, potential for exhibited pigs that are not necessarily ractopamine-free mixing with pigs that are ractopamine-free.
- Exhibitors would still need to find a (local) market after show.
Local lockers and secondary markets may not be able to handle the large volume of an entire show, resulting in exhibitors having to take pigs home first and feed longer. This practice raises a potential biosecurity concern, and increases the feed expense associated with the project.

- Secondary markets may still have additional requirements, may not buy individual exhibitors and may discount pigs.
 - Less concern of jeopardizing “wholesome” image of 4-H/FFA with a positive test. Less likelihood of negative press.

Option 3: Ban Ractopamine, Terminal Show (or partially terminal)

- Show management must communicate with packer before making final decision. Will banning ractopamine use satisfy packer requirements and keep the market open?
- Must be able to enforce ban and rules.
 - Is testing a good option? (see document by Karriker and Rademacher) How will the ban be enforced? Which animals will be tested? How many? How will those chosen for testing be identified? When will they be tested? Which test will be used? What are the logistics of getting testing completed? Who will incur the cost of testing? What are the ramifications of a positive test, to the exhibitor, the show or fair, future markets, and to the industry?
- Asking youth exhibitors to sign affidavit may not eliminate ractopamine use or cross-contamination. Show or fair must still enforce ban.
 - Record keeping is a challenge – even for some adult producers. Is the affidavit legally binding? Will exhibitors be aware of and/or admit to ractopamine use?
- Cross-contamination concerns
 - There are still ractopamine products in home barns, etc. Ractopamine appears to be easily cross-contaminated. Not all packers have banned ractopamine and some pigs may still be fed diets containing the feed additive. According to the FDA, ractopamine is still legal and effective and may be used in hogs not going to those markets that may be at the same show or in the same areas. There are similar products approved for use in beef cattle and turkeys, further complicating possible routes of cross-contamination, especially on fairgrounds, in show rings, etc. All aspects of feed manufacturing, feed hauling, feed storage, feed handling and feeder must be clean and free of ractopamine residue. A feed mill manufacturing diets with ractopamine for other swine, beef or poultry diets or is using meat and bone meal or fat from ractopamine-fed animals will not be able to meet the standard for “ractopamine free”.
- What is the liability to the show, exhibitor and industry if a ractopamine-positive test occurs?
 - Concern over losing packer access when/if a positive carcass is found. It was difficult for packers to accept show pigs even before this current situation. Shows might be forced to still find alternative market or change show rules if a positive carcass was found at a packer after the show had agreed to be ractopamine-free. There may be potential economic liability resulting from packer not being able to sell pork to export market. Who incurs the resulting loss of value? Once again, continual communication with packer is essential.
- Concern over a positive test(s) affecting the current “wholesome” image of 4-H and FFA
 - Negative press associated with hogs testing positive and the potential for this situation to be misrepresented as food safety or animal welfare concern to consumers. Negative media involving the show pig industry has the potential impact of negative press for entire swine industry.

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