

Ractopamine

Fact Sheet • April 2013

What would you call a drug that makes livestock grow lean meat faster? Agribusiness might call it a wonder drug, but increasingly consumers are learning that it's too good to be true. Using ractopamine may pose human health risks and can compromise animal health and welfare. Ractopamine's continued use in the United States hurts the agriculture industry as a whole.

Ractopamine makes livestock grow faster, with leaner meat and less fat.¹ The livestock demonstrate higher feed efficiency, which means that they produce more meat from the same amount of feed.² Even better, in the view of meat companies, ractopamine has no obvious effects on the quality of the meat.³ Consumers cannot look at pork chops and tell which were from pigs raised with ractopamine and which weren't, nor can they taste the difference in the cooked chops.

For agribusiness, ractopamine offers a boost in productivity and profits. Between 60 and 80 percent of U.S. pigs are treated with ractopamine, yielding 10 percent more meat and \$2.00 more per pig than average.⁴ Ractopamine was also approved for use in beef cattle in 2003 and turkeys in 2008.⁵ Several companies that sell meat raised without antibiotics do not allow their producers to use ractopamine, including Niman Ranch and Whole Foods.⁶

The U.S. government is so committed to the use of ractopamine to increase livestock production that it's pursuing trade wars with countries that won't import meat raised with the drug. The European Union (EU), China and Russia are among 160 countries that ban or limit the use of ractopamine.⁷ The promised miracle drug isn't so miraculous after all, but, instead, has become a source of international controversy.

Health Impacts on Livestock and Drug Residues in Meat

Livestock treated with ractopamine can suffer significant adverse health effects. Ractopamine belongs to a class of drugs called beta-adrenergic agonists, or beta agonists.⁸ They are the opposite of the more familiar beta blockers,

which slow the heart rate.⁹ Beta agonists speed the animal's heart rate, mimicking stress hormones.¹⁰

Ractopamine also alters pigs' brain chemistry, which stimulates increased aggressive behavior.¹¹ The pigs are not only more likely to attack each other, but their handlers are also more likely to handle them roughly, which is dangerous for the pigs and the workers.¹² A study from ractopamine manufacturer Elanco acknowledged that, because of aggressive behavior, pigs treated with ractopamine are at increased risk of injury during transport.¹³

A 2012 investigation reported that the U.S. Food and Drug Administration (FDA) received over 200,000 reports of





adverse effects of ractopamine in pigs since the drug's approval, far outpacing those for any other livestock drug. Livestock producers reported pigs treated with ractopamine experiencing "hyperactivity, trembling, broken limbs, inability to walk and death."¹⁴ While the FDA has stated that these reports do not prove that ractopamine caused the symptoms, the FDA required Elanco to add a warning label to the drug stating, "CAUTION: Ractopamine may increase the number of injured and/or fatigued pigs during marketing."¹⁵

Because ractopamine is fed to livestock in the last few weeks before slaughter, residues of the drug are left behind in the animal's meat.¹⁶ Of the small fraction of meat tested for ractopamine residues, none have registered above the FDA's permitted tolerance levels.¹⁷

The FDA has not approved beta agonists for medical use in people, but the drugs are used off-label for asthma and heart failure. Elanco's human safety tests for ractopamine mainly included tests on animals, with only one study involving six human subjects.¹⁸ What constitutes an acceptable level of ractopamine in meat is a matter of international dispute.

International Controversy Over Ractopamine

Although 27 countries, including the United States, Canada, Mexico and Japan, allow ractopamine use, 160 countries, including the EU and China, do not.¹⁹ Countries that use ractopamine generally cannot sell meat to countries that do not allow it. The EU and China combined represent 70 percent of global pork consumption, a huge potential market for U.S. pork producers.

The United States began pressuring the international forum on food safety standards, the United Nations' Codex

Alimentarius Commission (Codex), to set a residue limit for ractopamine in meat shortly after the FDA first approved the drug.²⁰ A Codex-approved ractopamine residue limit would effectively force countries to allow the import of meat treated with ractopamine because Codex is the accepted standard under international trade rules. Codex remained deadlocked for four years over the issue and only narrowly set an amount of ractopamine residue that can remain in meat and be considered safe to eat in 2012.²¹ For countries that ban ractopamine, the Codex decision represents a weakening of international rules.

The new Codex standard is more stringent than the FDA allows, meaning that the United States falls outside the Codex standard.²² Nonetheless, the EU, Russia and China all insisted that they would maintain their ractopamine bans despite the Codex standard.²³ Russia has demanded that the United States certify that its meat is ractopamine-free. Since the United States tests so little meat for residues, and the meat tested for ractopamine frequently contains small residues, Russia has banned U.S. beef and pork imports.²⁴

U.S. Agriculture Secretary Tom Vilsack and U.S. Trade Representative Ron Kirk contend that Russia's actions contradict its World Trade Organization commitment to follow the Codex standards.²⁵ To access the Russian market, Brazil has banned ractopamine use in its livestock until it develops a dual-track supply chain to ensure that it can provide ractopamine-free meat to Russia, the largest customer for Brazil's beef.²⁶

Since the Codex decision, Taiwan has set its own maximum allowable ractopamine residue levels for beef, but not pork. In 2011, Taiwan found ractopamine residues in U.S. meat imports, resulting in recalls and a steep drop in U.S. meat imports.²⁷ In the spring of 2012, the United States threatened to discontinue any new trade agreements with Taiwan over its refusal to establish maximum allowable ractopamine residue levels. Taiwanese citizens, including livestock producers, have held repeated public demonstrations, opposing any imports of meat from animals treated with ractopamine.²⁸

U.S. Response

The U.S. government intends to force global acceptance of ractopamine, by challenging bans on the drug as WTO-illegal trade barriers.²⁹ The U.S. livestock and pharmaceutical industries insist that foreign opposition to ractopamine stems from protectionism, not food safety concerns.³⁰ Meanwhile, two organizations, the Center for Food Safety and the Animal Legal Defense Fund, have petitioned the FDA to perform its legal obligation to review the scientific basis of the Codex decision and also to reduce the U.S. maximum residue levels in meat to the Codex standard or lower.³¹

The citizen petition cites several of the European Food Safety Authority's (EFSA's) objections to the alleged safety of ractopamine residues for people.³² The EFSA found that

the human studies on ractopamine were inconclusive, included too few subjects and failed to address subpopulations like children who might be more vulnerable to ractopamine's effects.³³ These concerns were sufficient for the EFSA to determine that ractopamine has not yet been proven safe for consumers.³⁴ Given the human health and animal welfare concerns, it is past time to reconsider ractopamine use in the United States.

Ractopamine may result in faster livestock growth with leaner meat, but it raises issues too serious to ignore. Ractopamine hurts animal welfare, and it significantly impairs U.S. livestock exports. Far from a miracle drug, ractopamine proves another example of what's wrong with our industrial food system. It's time to take it off the table and out of our food supply.

Endnotes

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