Ongoing Work in Public Health Through the Missouri Rapid Response Team

MRRT Missouri Rapid Response Team

A Poster Within a Poster

Operations for the Missouri RRT and the Partners Who Make the RRT Work

MRRT Missouri Rapid Response Team

Missouri Department of Agriculture

Capabilities

Feed, pet food, produce safety, eggs, meat, dairy, laboratory, and a partnership with the University of Missouri's laboratories for animal food.

Regulatory Responsibilities

Feed, produce safety, meat, poultry and dairy inspections, farm biosecurity, etc.

Authority

Stop sale orders, condemn illegal dairy products, require flocks are culled, provide distribution lists, request corrections and follow up, request and record audit checks.

Under Missouri Law, the MDHSS cannot enter a feed facility, only MDA has that authority.

Missouri Department of Health and Senior Services

Capabilities

Epidemiology, environmental public health and the State Public Health Laboratory [includes bacteriology, virology, chemistry and radiological analysis].

Regulatory Responsibilities

Manufactured foods, supplements, etc.

Authority

Embargo, adulterate/ensure destruction of dangerous products, close orders, request corrections and follow up. Provide distribution lists, request and record audit checks.

Food and Drug Administration

Capabilities

Environmental public health, laboratories, epidemiology and research

Regulatory Responsibilities

Manufactured foods, retail, feed, eggs, supplements, medicines, cosmetics, etc.

Authority

Recalls, seizures, injunctions, warning letters, criminal prosecution, consent decrees, detention (imports). The ability to reach beyond our borders to help us with what happens within our borders.

115 Autonomous Local Public Health Agencies

Capabilities

Epidemiology, environmental public health

Regulatory Responsibilities

Retail foods

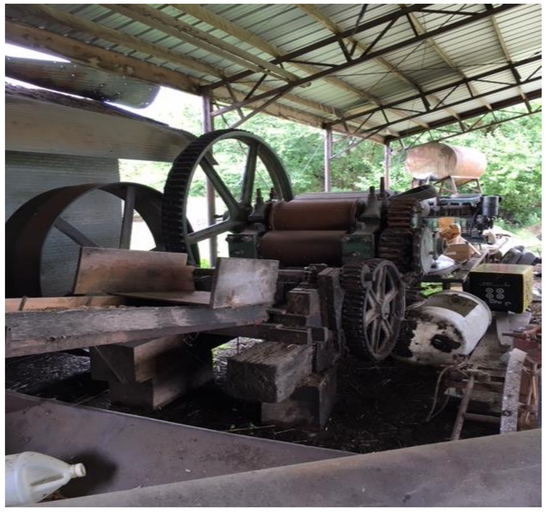
Authority

Embargo, ensuring destruction of dangerous products, close orders, request corrections and follow up, audit checks

Missouri Provided this slide/poster for the Midwest Regional RRT Meeting in Minneapolis. All of the participating states provided a slide/poster so every state could see the basics describing how each state communicates and operates. Learning the basics of the neighboring state operations can help increase understanding, while it also offers the potential for ideas that might help each state to find better solutions for more efficiency. Participants also had the chance to learn what can make each state unique. In this case, personnel from the Missouri Department of Health and Senior Services cannot enter a feed facility. That demonstrates an advantage of RRTs. If one agency does not have authority or resources needed, another partner agency can. MRRT partners from the Missouri Department of Agriculture can enter and inspect feed facilities. The poster refers to research at FDA. The MRRT has helped local public agencies investigate the potential source of Haff Disease. As part of those investigations, the MRRT sent samples to help an FDA laboratory find the toxin that causes Haff Disease in some fish species. Research is needed because the Haff Disease toxin is unknown.

Prevention for the Long-Run

Sorghum grain can be squeezed to produce molasses. In drought years, sorghum can absorb higher levels of nitrogen.



This is equipment for squeezing sorghum at a Missouri farm. The MRRT investigated a case of high nitrates in sorghum molasses at the farm. High nitrates led to two cases of methemoglobinemia.

The rest of the story

In 2018, two Iowa infants were hospitalized after consuming molasses and goat's milk. They suffered from methemoglobinemia. High nitrates (9,300 parts per million) led to the methemoglobinemia, a condition where red blood cells transport too little oxygen. Investigations and recalls strongly indicated that the high nitrate product was no longer available for sale. The MRRT went to the farm/production area in Missouri. A new crop of sorghum was near harvest. The MRRT worked to test new crops in the field, and tested the finished molasses product. The nitrate levels were far lower than those consumed by the infants. Lot numbers and labels were also created with a warning label that the product should not be consumed by children aged two and younger. But the story does not end here. In 2018, MRRT partners at the Missouri State Public Health Laboratory (MSPHL) began testing not only Missouri sorghum molasses products, but also products from other states. The molasses samples from Missouri and other states have continued at the MSPHL to this day. Tests in the last few years have been supported through the Laboratory Flexible Funding Model (LFFM). So far, no samples have been as high as those recorded from the molasses that was harvested from the 2017 crop that led to methemoglobinemia. These tests serve two important purposes. First, pure prevention to make sure that nitrate levels do not reach those that caused illnesses before. Second, the tests can serve as a body of data to determine a maximum nitrate level. At the time of the illnesses and today, there is no maximum level for nitrates in molasses, which makes it harder for regulators to take action. A clear boundary still needs to be established. The good news is the infants recovered, no additional cases related to sorghum molasses have been detected, and testing keeps watch to make sure there are no new illnesses.