

MSU Pork Quarterly

Information for an Industry on the Move

March 2016

Vol. 21 No.1

In This Issue...

Pg. 1 Dave Van Walleghem has declared WAR! - Wipe out All Rodents

Pg. 4 Emergency Response to Manure Spills

Pg. 5 Dr. Sarah Ison New to MSU Pork Extension



This newsletter is edited by:

Thomas Guthrie, MSU Extension Educator
517-788-4292 guthri19@msu.edu
& Emily Walker, MPPA, Program Director

Dave Van Walleghem has declared WAR! - Wipe out All Rodents

By: Madonna Gemus-Benjamin, Department of Large Animal Clinical Sciences MSU College of Veterinary Medicine

Warning: Some photos and comments in this article might put you off your dinner. Reader discretion is advised!

Michigan Professional Pork Producers Symposium guest speaker Dave Van Walleghem has shared the following rodent facts.

Rats destroy 20% of the world's crops. A single rat will consume 15-22 lbs. of grain and SPOIL more than 220 lbs. with pathogen contaminated feces and urine. With their single pair of continuously growing, razor-sharp incisors, the animal must continue to wear them down so that they do not reach and pierce the skull. Rodents will destroy insulation, wood and METAL structures. They have been identified as a cause of fires by chewing wire insulation to be used as nesting material.



Rodents are prolific. A single pair of rodents can potentially GENERATE 15,000 rodents in one year and more than 20 Million in three years.

Rats and mice are VECTORS for more than 200 diseases including salmonella, dysentery, leptospirosis, Lyme disease, West Nile, toxoplasmosis, trichinosis and hantaviruses.

How do you know you have a problem? If you have grain and lack a rodent control program – you likely have rodents. To assure yourself, watch for burrows in the wall or feces along the walls, behind hiding spaces,

next to feed and water sources, feet tracks along walkways and or in the dust. Other evidence of infestation include chewing marks, wood residues, and hair or fat on the rafters or pipes. Urine can be detected with a black light.



Little known fact: Rats will eat from the middle of the bait packs and mice will eat from the outside.

Baiting:

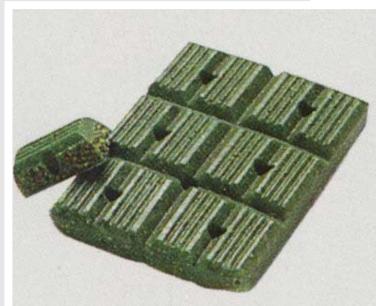
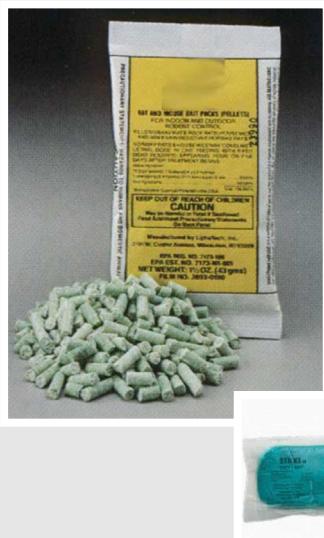
Cats and dogs are an unacceptable method of controlling rodents in and around swine buildings; first because they are inconsistent and secondly, they too can be the source of disease agents such as Toxoplasmosis, which can be transmitted to humans and a pork safety risk.



Know your enemy, use their habits to your advantage, assess the tools available and arrange a battle plan. Rodents use scent marking with urine and feces, a

distinct musky odor, for communication, marking movement patterns and establishing territory. Rodents will generally follow the sample path between their nest and food sources.

Mice and rats are caching animals which means that they will move the bait around the barns. Even bait placed in the attic can be



found in other areas and increase poison susceptibility of other animals such as piglets in the farrowing barn. Pellets, as shown

on the bottom left, are easily translocated, thus all bait should be secured inside a station to prevent movement. Observe for signs of rodent traffic and place the stations along the walls in their path.

Keep the area around the barn free of weeds, debris or feed. Make sure the premises are rodent proof. Creating a gravel barrier is one option for rodent-proofing.



Where possible, compost mortalities. Scheduling rendering tends to allow for buildup of carcass which is a food source for rats. In addition, unless situated outside the CAZ (controlled access zone), rendering trucks increase the risk to farm biosecurity.

Other suggestions include to work with a rodent control specialist to develop a plan tailored to your operation.

Target your attic. Attics provide shelter, heat and nesting material. One suggestion if you are using a block style rodent bait - use a piece of wire and suspend from the rafters.

Table 1.

Date	Feb 22 2016	Station #	Amount consumed	Rebaited amount	Comments	Station #	Amount consumed	Rebaited amount	Comments
IN 1	Low 1/4	2 Blocks				ON 1	Low 1/4	2 Blocks	
IN 2	Low 1/4	2 Blocks				ON 2	Low 1/4	2 Blocks	
IN 3	Low 1/4	2 Blocks				ON 3	Low 1/4	2 Blocks	
IN 4	Low 1/4	2 Blocks				ON 4	Med 1/2	4 blocks	
IN 5	Low 1/4	2 Blocks				ON 5	High	6 blocks	Spill by bin
IN 6	Low 1/4	2 Blocks				ON 6	High	6 blocks	Spill by bin
IN 7	Med 1/2	4 blocks				ON 7	High	6 blocks	Spill by bin
IN 8	High	6 blocks				ON 8	High	6 blocks	Spill by bin

- Prevent garbage (refuse) accumulation within 100 feet of the hog buildings.

- Store feed in rodent proof bins and feeders covered with tight fitting lids.

- Clean up feed spills promptly to reduce rodent and wildlife attraction

- Plug holes and gaps in the walls and doors of buildings.



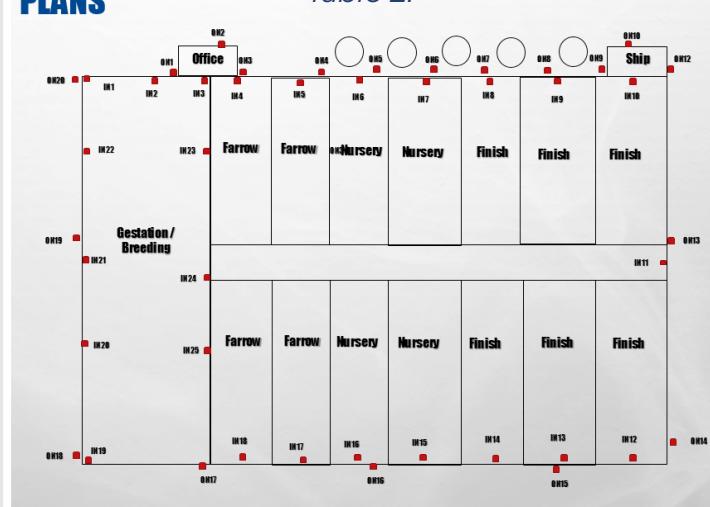
The Common Swine Industry Audit (CSIA) has two questions pertaining to Rodent Control. The biosecurity SOP for rodent and pest control must include the following elements: location of the bait stations, inspection records of bait stations, and that stations are in the locations stated in the SOP and contain bait.

Map/Monitor/Adjust

The following 3 examples will meet the CSIA audit

PLANS

Table 2.



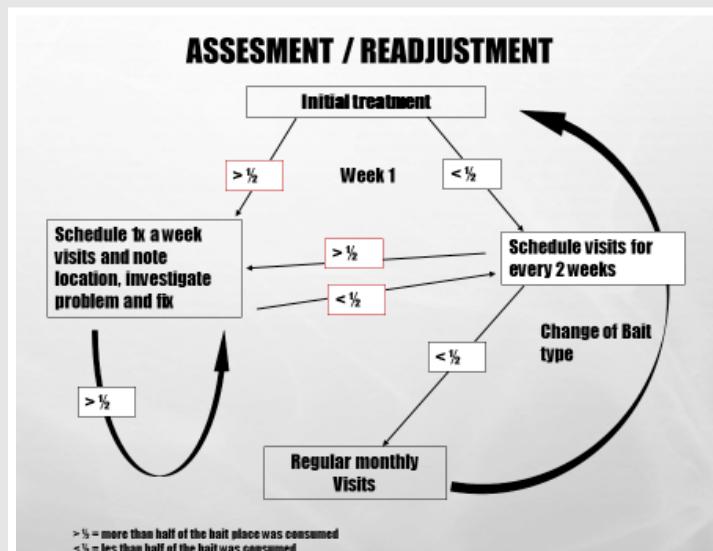
standards.

Map your barn with the number of the stations and strategic placement. (Table 2.)

Monitor with record sheets. (Table 1.)

Assessment and re-adjustment frequency of bait station review and baiting program. (Table 3.)

Table 3.



Rodents have advanced cognitive abilities and can quickly learn to avoid poisoned baits. Rotate your bait at least every 6 months as the rodenticide efficacy and avoidance drops within a year. Recommended baits include all "single feed" baits such as Bromadiolone, Difethialone, Brodifacoum, Bromethalin as these baits provide enough poison consumed in one day feeding or less.

The time to take action is now to protect your on farm investments which include the health and well-being of your pigs not to mention the potential damage to building structures. Consider evaluating your rodent control program and follow Dave Van Walleghem's advice to declare "WAR" - Wipe out All Rodents.

Emergency response to manure spills – Are you prepared?

Part 1.

With Spring-like weather finally arriving in most parts of Michigan livestock producers are looking to get in the field to spread manure before planting season arrives.

By: Shelby Burlew, Livestock Environmental Educator, MSU Extension

There are no simple solutions to a manure spill, but thinking through your specific situation, and monitoring daily can help prevent, or at least minimize, the environmental risks and potential regulatory issues. Due to the long, harsh winter in addition to a late starting spring livestock producers are quickly realizing that there may be a shorter than normal window to spread manure prior to planting. Michigan State University Extension recommends that all farms have an emergency response plan in place to deal with potential manure spills. It is important to discuss the emergency plan, location of the emergency phone list and the expected responses with the entire farm crew.

Writing down your emergency response plan will help you to respond quickly and effectively in the case of a manure spill. Essentially, if a plan has been written down on paper (and shared appropriately) the custom applicator crews or farm employees are more apt to remember it and use it in the case of a manure spill. Also, a written emergency response plan demonstrates responsible preparation to state agency staff (MDARD and MDEQ) and may reduce the cost of remediation and clean-up. There are three important components to an emergency response plan; emergency contact list, plan of action and site maps.

Emergency Contact List:

It is important to write down the emergency phone numbers in the order that they should be called. For example, you may need to contact the Michigan Department of Agriculture and Rural Development (MDARD) Agriculture Pollution Emergency Hot Line (800-405-0101), your county sheriff or local police, neighbors, backhoe contractors, EMS, county engineers, county road commission and drain commission and commercial applicators. Be sure to consider including contacts necessary to obtain permission to enter the neighboring property to contain a manure spill or notification of downstream water users. Include your own farm information on this contact list; and post the information at each livestock facility site, the office, the owner or manager's place of residence and frequently used

vehicles or tractors. Cell phones are also a great tool for storing emergency contacts; just make sure that all of the information is updated on a regular basis.

Plan of Action:

The plan of action details the necessary procedures to control, contain and clean-up a manure spill. In order to effectively react to different manure spill situations, you will need to plan for each of these specific situations. Consider planning for spills that may occur on the farmstead or production site, en route to the manure application site or in the field during application. For example, an emergency response for a ruptured pipe at headquarters may be different than the response to a manure spill on the roadway. Part 2 of this article series will go in depth on the 4 C's of Manure Spill Response.

Site Maps:

The last component for an emergency response plan is to include sketched site maps of livestock facility locations, surrounding areas within a one mile radius of the facility and each field on which manure is applied. Aerial photos work well as a base for field maps and should be available at your local United States Department of Agriculture (USDA) Service Center or available on-line through the USDA Natural Resources Conservation Service Web Soil Survey. Field maps should pinpoint manure application setback distances and any designated public use areas, watercourses, property boundaries, field access roads and gates. The following are things to consider marking on any of your site maps: buildings and fixed equipment, catch basins, electrical service boxes, manure storage structures and pump-out ports, valves, pumps, etc., open drains, slope direction and drainage patterns, tile intakes, tile outlets, water main connections and shut-off valves and water wells (include abandoned/unused). It is also a good idea to include directions to get to the field from the livestock facility written or typed on each field map.

For more information, emergency plan templates can be found on the Michigan Agriculture Environmental Assurance Program website.

Dr. Sarah H. Ison: New to MSU Pork Extension

By: Dr. Sarah Ison, MSU

Dr. Sarah Ison joined the Department of Animal Science and the MSU Pork Extension team in October 2015 having just completed a Ph.D. at Scotland's Rural College (SRUC) and the University of Edinburgh in the United Kingdom. Her Ph.D. project investigated pain at farrowing and the use of post-farrowing pain relief to improve sow recovery and productivity. The project also included a survey study of UK pork producers and veterinarians to investigate attitudes to pain and the use of pain relief.



Sarah's educational background also includes a BSc in Biological Sciences, specializing in Zoology (2004) from King's College London and an MSc in Animal Behavior (2006) from the University of Exeter. The latter included a project studying captive coyote pups at a research center near Logan, Utah.

Prior to undertaking a Ph.D., Sarah worked as a research assistant at SRUC for 5 years, working with the behavior and welfare team on projects relating to pig aggression, pre-natal stress, transport in hot climates and free-farrowing systems. During this time, Sarah had the opportunity to visit pig farms and abattoirs in Denmark, Germany, Spain, and across the United Kingdom, gaining some experience of different farming systems in Europe.

Here at MSU, Sarah will be undertaking a dual role, working with Dr. Janice Siegfried on an existing research project and with the pork extension team. The project work will involve surveys of pork industry personnel, including pork producers and breeding company representatives. The extension side of the role will then act on the outcomes of these surveys to share knowledge on how the behavior of pigs can be used to streamline management practices.

All comments and suggestions should be directed to the:

MSU Pork Team

Dale Rozeboom: Extension Specialist
(517) 355-8398, rozeboom@msu.edu

Madonna Gemus-Benjamin:
Extension Swine Vet
(517) 614-8875, gemus@cvm.msu.edu

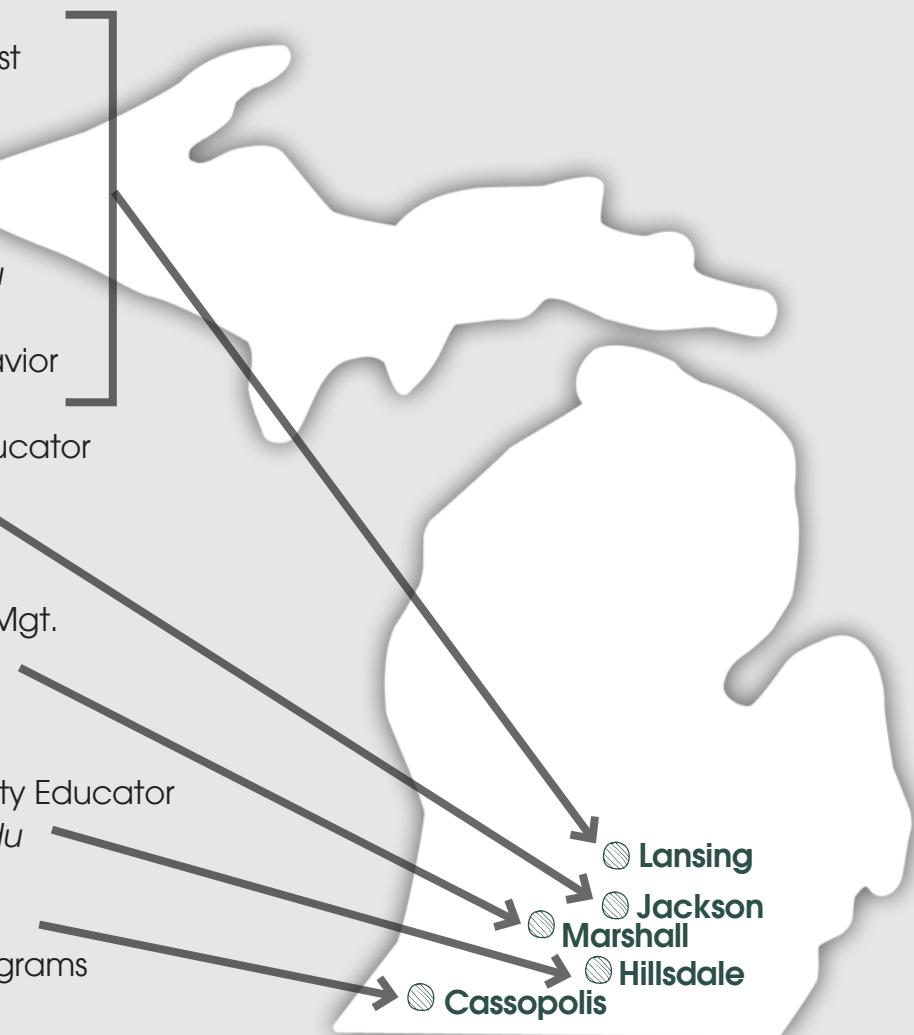
Sarah Ison: Swine Welfare and Behavior

Tom Guthrie: South Central Pork Educator
Nutrition and Management
(517) 788-4292, guthri19@msu.edu

Roger Betz: Southwest District Farm Mgt.
Finance, Cash Flow, Business Analysis
(269) 781-0784, betz@msu.edu

Shelby Burlew: Environmental Quality Educator
(517) 439-9301, bollwah1@anr.msu.edu

Beth Ferry: Southwest Pork Educator
Management, Quality Assurance Programs
(269) 445-4438, franzeli@msu.edu



**Sign Up for
the Latest
News for
Agriculture**

Want to stay updated on various MSU Extension topics? Sign up for news digests online! Visit bit.ly/MSUENews, and follow the prompts to get customized email digests. Digests are electronic newsletters of recent articles published on the MSU Extension website. You can unsubscribe or change your areas of interest anytime. The digests contain information on categories including agriculture, business, community, family, food and health, lawn and garden, 4-H and youth, and natural resources. Each category has multiple subcategories, so subscribers can narrow down their choices to fit their specific interests.