Swine Worker Health and Safety: Women's Health

eXtension: (http://articles.extension.org/pages/31658/swine-worker-health-and-safety:-womens-health)

December 08, 2010 Print

Contents

Swine Work Health and Safety: Women's Health

Authors John Shutske, University of Minnesota Michele Schermann, University of Minnesota

Reviewers Liz Wagstrom, National Pork Board Kerry Leedom-Larson, National Pork Board

Women's Health

Introduction

Today, nearly 60% of women age 16 and over participate in the workforce. Very little

information has been collected on the overall safety and health concerns of female agricultural workers. However, the overall trend has been an increase in the number of women that own and manage agricultural operations in industrialized countries like the US and Canada (from Agricultural Medicine, by Donham and Thelin, 2006).

There are many potential health risks to women living or working on livestock farms. Most hog facilities today use drugs or chemicals that may have a potential impact on human health, particularly women's reproductive health. This section will address some of the hazards associated with hog farms, including trauma, infectious agents, and chemical and drug interactions that are dangerous to employees of both genders. We'll also address how to avoid contact with these chemicals and animal health drugs.

OSHA Rule(s)

The Occupational Safety and Health Act (OSH Act) requires employers to comply with hazard-specific safety and health standards. In addition, pursuant to Section 5(a)(1) of the OSH Act, often referred to as the General Duty Clause, employers must provide their employees with a workplace free from recognized hazards likely to cause death or serious physical harm.

OSHA has previously used the General Duty Clause to cite employers that have allowed employees to be exposed to potential serious physical harm related to injection injuries and availability of clean restrooms.

Hazard

'***Excessive strain or stress'***

This is an area of concern for pregnant workers. Excessive strain or stress can occur during work that was routine and non-hazardous prior to pregnancy. The differences are

due the changes in abdominal musculature associated with the progression of gestation and because of changes in the center of gravity associated with pregnancy. Excessive strain or stress can occur during normal work, when climbing in and out of equipment or areas, moving feed, and carrying heavy loads of any sort.

'***Inhaled gases'***

Exposure to gases is not uncommon in production agriculture, but it can be dangerous to a pregnant worker and cause problems for the fetus. Examples include fumes from diesel machinery, aerosolized pesticides or herbicides, and waste gases from livestock.

More specifically, pregnant women should be especially cautious when working around carbon monoxide. Carbon monoxide is a colorless, odorless toxic gas that can build up in poorly ventilated areas and cause death. Carbon monoxide is usually produced by a fueled heater or engine being used indoors. Low levels of carbon monoxide have been associated low birth weights and slow mental development in newborns. High levels have been associated with abortion.

'***Zoonotic diseases'***

Zoonoses are diseases that are transmissible from animals to humans. Zoonoses may be transmitted several ways, but direct contact with an animal or animal waste is the most common method of exposure. Many zoonoses cause mild, influenza-like illness that might not normally be noticed in healthy people. However, some of these same agents can cause severe disease in a pregnant woman. Some zoonotic diseases to be concerned about are:

Hepatitis E: a swine specific type of this virus has been found in swine in the US, although it does not cause illness in pigs (reference). The swine specific type of Hepatitis E has rarely caused infections in humans worldwide. Infection with the human specific strain of Hepatitis E during pregnancy has been linked to increased rates of serious liver disease and liver failure, higher death rates in mothers, and higher rates of

fetal death (reference). It is not known if the swine specific strain of Hepatitis E would have the same effect in pregnant women.

Listeria: these bacteria may be present in swine manure in very low levels. Exposure to Listeria in other animal species as been associated with abortion in pregnant women (from Agricultural Medicine, by Donham and Thelin, 2006). Women can also be exposed to Listeria via contaminated food or soil.

Leptospirosis: swine may be infected with these bacteria if unvaccinated. People are typically exposed via contact with contaminated urine or water. The effects of infection during pregnancy are unclear; however, miscarriage and fetal death have been reported (reference).

'***Chemical hazards'***

Some chemical agents can be absorbed through the skin, for example, pesticides, herbicides, and veterinary drugs. The possible adverse effects to pregnant women include: compromised maternal health, teratogenic effects (development of congenital malformations), abortion, and postpartum problems.

'***Reproductive hormones'***

Although you may not be familiar with the trade names of reproductive hormones used in swine production, chances are they are used in your facility. Examples of brand names of reproductive hormones are: Matrix®, Prostamate®, Estrumate®, PG600®, Lutalyse® and oxytocin. Though they are drugs made by different companies, they all contain hormones that act on the reproductive system and some may have harmful effects on humans exposed to them. Most reproductive hormones used in swine are administered by injection.

Prostaglandins such as Estrumate, Prostamate and Lutalyse are injected to induce farrowing in sows that are close to their farrowing date. Oxytocin may be injected to a

sow while she is farrowing to help increase the strength of her uterine contractions to aid her in delivery. PG600 is used to induce heat in non-cycling gilts or sows after weaning.

If altrenogest, such as Matrix, is used in your facility it will be applied as a liquid to sows' feed. By administering this drug to a group of sows you are able to synchronize the group so they come into heat, breed and farrow during a short time frame.

Although contact with these chemicals – from an accidental needle stick or absorption through the skin – can be dangerous to any employee, it is a greater concern for female workers. The reproductive hormones may disrupt women's menstrual cycles, cause reproductive issues or even disrupt the normal course of a pregnancy.

Prostaglandins such as Lutalyse, Prostamate and Estrumate can lead to the abortion of a sow's pregnancy if there is an accidental exposure; they can also cause abortion in pregnant women. The drug Matrix can actually prolong pregnancy if absorbed in both sows and women. Women who may be pregnant, with known or suspected breast cancer, or undiagnosed vaginal bleeding should not handle Matrix. If you look at the MSDS label for PG600 and oxytocin you won't see any specific warnings directed toward women, but since they are both reproductive hormones they should be used with caution. For these reasons, if a woman working in the facility does not feel comfortable handling these drugs, she is not obligated to perform this specific task.

In addition to the reproductive hormones, there may be other products used in facilities that could potentially have a medical impact. One such example is a group of drugs called corticosteroids (examples include dexamethasone and Predef® 2x). They are known to disrupt pregnancy in animals.

If a female worker does not feel comfortable handling reproductive hormones due to the effects of accidental contact or injection, she may be exempt from this task.

Prevention and Control

-Always wear impermeable gloves when working with drugs to protect your skin from contact.

-If the drug accidentally comes into contact with your skin, immediately wash the affected area with soap and water.

-Use correct injection techniques to minimize the possibility of a needle stick. Link to injection injuries

-Ensure proper restraint of the animal prior to injection.

-Ensure proper syringe adjustment.

-Ensure proper needle placement onto the syringe.

-Use properly cleaned needles and change needles often.

-Never attempt to straighten a bent needle!

-Never carry a loaded syringe in your pocket!

-Consult with your veterinarian about potential adverse drug and vaccine reactions.

- www.aces.edu/pubs/docs/A/ANR-0902/

MSDS

Your employer should always direct you to the MSDS sheet for the specific reproductive hormones used in your facility. This will inform you of any other risks or treatments associated with that drug. If you have questions about your safety after reading the MSDS for any compound used in your facility, you should consult with a physician to assess any specific health risks that you may have.

To ensure you understand the safety concerns related to compounds used in your facility and that you are confident in your ability to work with them, your employer will

have you sign a Hazardous Chemical Disclosure Form. This form will be specific to the chemicals used in the facility. Women who do not feel comfortable working with hormones do not have to sign the form nor are they obligated to perform the specific task.

Some of the reproductive hormones containing drugs used in a hog facility are dangerous to all employees. If employees suffer from medical conditions listed on the MSDS, they may be exempted from performing tasks involving that drug. For example, the MSDS sheet for Lutalyse and Prostamate warns employees with asthma and bronchial and other respiratory problems to be cautious since direct exposure can cause bronchospasms. These medical conditions are unique and different for each of the reproductive hormones so be sure to review the MSDS sheet for the specific drugs used in your facility. If a female worker does not feel comfortable handling reproductive hormones due to the effects of accidental contact or injection, she may be exempt from this task.

Reproductive Hormone Precautions:

Whenever you are working with the reproductive hormones, wear impermeable gloves to protect your skin from accidental spills. If the chemical does come into contact with the skin it should be washed off immediately, and thoroughly, with soap and water. Make sure to read the MSDS labels on the type of reproductive drug used in the facility. All pork production facilities are required by law to provide a copy of the MSDS for every drug used.

Pregnancy is not the only health condition that requires an employee to abstain from handling a drug. On the MSDS label you will find a list of other very severe health conditions that are grounds for employee exemption from tasks where they will be in contact with the drug. Asthmatics and people with bronchial and other respiratory

problems should exercise caution when working with Lutalyse, Estrumate or Prostamate as they can cause bronchospasms.

Be sure all employees have read the MSDS label for the specific type of reproductive hormone used in your facility. After reading the label they must sign the Hazardous Chemical Disclosure Form for your specific brand of reproductive hormone as an agreement that they fully understand the hazards of working with it. If an employee has questions about their safety after reading the MSDS for any compound used in your facility, they should consult with a physician to assess any specific health risks they may have. If a female worker does not feel comfortable working with the chemical she does not have to due to the serious side effects contact with the drug caused. Also on the MSDS label there will be a series of severe health concerns that allow exemption from performing tasks where employees will be in direct contact with the drug. Some facilities may prohibit female employees from working with the previously discussed hormones to ensure there is never accidental contact with them.

Summary

Take precautions to prevent falls due to slips and trips.

Do:

Learn what drugs used in pork production can cause reproductive problems through accidental contact before signing a Hazardous Chemical Disclosure Form.

Read MSDS for drugs being handled.

Understand that reproductive hormones contain drugs dangerous to all employees

Don’t:

Work with drugs that may cause you respiratory problems.

Work with reproductive hormones without wearing impermeable gloves.

Needlessly expose yourself or female employees to reproductive hormones.

'***Additional Resources'***

CDC Infectious Disease Effects on Women (http://www.cdc.gov/ncbddd/hurricanes/infections.htm)

Safe Use of Animal Medicines (University of Nebraska) (http://www.ianrpubs.unl.edu/epublic/pages/publicationD. jsp?publicationId=414)

Check the following pharmaceutical companies for examples of MSDS (check MSDS for each product you use on the farm; actual formulations may vary from the examples given below): Matrix®, Prostamate®, Estrumate®, PG600®, Lutalyse®, oxytocin, Predef® 2X