



OCCUPATIONAL EXPOSURE TO HORMONES IN ANIMAL FACILITIES

Animal Care and Use Occupational Health and Safety
Office of the Vice Chancellor for Research

Sources of Exposure

Faculty, students, and staff can be exposed to hormones during the conduct of several routine agricultural practices. The most commonly used ones are:

- Implanting growth promotants - SYNOVEX[®], Revalor-S[®] or Finaplix-S[®]
- Handling feed additives for reproductive management - Matrix[®], Melengestrol acetate
- Injecting solutions for reproductive management - Prostate[®], Estrumate[®], PG600[®], Lutalyse[®], oxytocin, Cystrolrelin[®], zeranol
- Applying other reproductive management devices (intravaginal) - CIDR
- Administering treatments for acute metabolic disorders - Predef[®] 2X

This is not an exhaustive list, and you may encounter different hormones or brand names.

Standard farm operating procedures and research strategies often employ these materials. Faculty, staff and students involved in managing animals or handling feed may be exposed repeatedly during the course of their work. It is important for all persons to be aware of their potential for exposure to these hormones.

Exposure versus Hazard

Hormones, in the forms used on farms, can enter the body by breathing in dust or particulates (inhalation), by contact with the skin (dermal absorption), by swallowing (ingestion), or injection. The hormones may be in a liquid, solid or powdered form, or may be present in an encapsulated or impregnated substrate. Some preparations pose a greater risk for exposure to the user than others, and some hormones are associated with higher health risks when exposure occurs. Risks vary among individuals depending on sex, age or underlying health conditions.

While exposure to hormones is not always dangerous or harmful, products containing hormones are intended to alter a physiological process. Animal physiology and animal hormones are structurally and functionally very similar, and often identical, to those of humans, so exposure to these hormones is likely to have similar effects across species.

Short-term, infrequent or low-level contact may have no effect, or be mildly unpleasant or irritating but without lasting effects. On the other hand, some hormones can be harmful even after brief contact with small quantities. This is particularly true of reproductively active hormones, which are of particular concern if the user is pregnant or intending to become pregnant. The effects of exposures are not always immediate. Repeated contact with hormones can result in cumulative dosing, leading to physiological effects.



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Protecting Yourself

If you work regularly with, or come in contact with hormones during the course of your work, you must be informed of the potential hazards and the steps you can take to minimize your risks of exposure and avoid possible effects on your health.

All commercially sold, FDA-approved hormone products ship with a safety data sheet (SDS) which focuses on the hazards of working with the material in an occupational setting. The SDS provides information on procedures for handling or working with the substance in a safe manner. It includes information such as physical data (melting point, boiling point, flash point, reactivity, etc.), toxicity, known health effects, and first aid procedures. SDSs also contain information on safe methods of storage and disposal, specifications for any necessary personal protective equipment (PPE), and procedures for managing spills.

IACUC Animal Use Protocol Documentation

All agricultural animals housed on University properties and used in research and teaching are covered by IACUC-approved animal care and use protocols. When hormones are used in these animals, their use must be described in the IACUC protocols to which they are assigned, in the procedures (Section 5, "Description of Use") and in Section 15.2.a, "Drugs", with an established withdrawal period. The use of hormones in animals is reviewed by both the IACUC and the veterinary staff of AACUP. Personnel using the material are expected to be familiar with the procedures and recommendations of the manufacturer, and be aware of the risks and the personal protective measures needed for handling the material safely.

Users of hormone-containing feed additives and reproductive management materials are responsible for:

- Using the substance only for the purpose intended.
- Adhering to label directions for preparation and dosing.
- Heeding warning statements on the label.
- Storing substances, and disposing of used product containers, needles and syringes, etc. properly.
- Observing withdrawal times prior to disposition of the animals or their products.
- Maintaining purity of the products and avoiding compounding with other products unless combinations are specifically approved.

Documentation of administration (when, how much, by whom) of these products to animals is very important as withdrawal periods must be considered and documented.