

# **Animal Research and RFID**

**by Bob Scher, CEO, Dynasys**

Animal Research has played a vital role in every major medical breakthrough over the past century for both human and animal health. There are significant similarities between the genetic systems of animals and humans.

Without animal research there would be no vaccines for killer diseases, smallpox, polio, influenza, measles, mumps, tetanus, rubella and pneumonia. Laboratory animals are used in the research responsible for the medical breakthroughs of anti-cancer drugs and cures for AIDS and Parkinson's disease. Knowledge attained through the medical research conducted with laboratory animals has helped set the protocols for surgical procedures, organ transplants, joint replacement, heart catheterization, and treatments for the relief of pain.

Medical researchers use laboratory mice in their studies because mice exhibit close genetic and physiological similarities to humans. Mice have physiology, behavior, and diseases very similar to that of humans. In fact, mouse DNA is 90% homologous to humans and almost all human genes have "homologs" (anatomical correspondences) in mice.

Additionally, laboratory mice are used as a biomedical research model because of their relatively low cost of maintenance and their ability to quickly multiply, reproducing as often as every nine weeks.

Mouse models used for medical research include thousands of unique genetically engineered mutant strains. The mouse is well understood genetically, easy to work with. Transgenic mice are developed specifically to be prone to different cancers, alcoholism, diabetes, blindness, obesity, Lou Gehrig's disease, Huntington's disease, anxiety and even drug addiction. Immuno-deficient mice can also be used as hosts to grow both normal and diseased human tissue, a boon for cancer and AIDS research. Insights drawn from these studies with laboratory mice become important in the design and proper interpretation of subsequent human studies.

The use of laboratory animals to test the concept and perfect medical procedures before attempting it on humans has become an accepted practice. The only other options would either be to use actual people or not develop the treatment at all.

Animal Care facilities must house and care for thousands of such laboratory mice undergoing scientific research. The facilities are responsible to provide humane treatment and keep an accurate accounting of those animals in their care. The Dynasys Animal Care Warehouse Management System uses the latest RFID technology available to track and maintain an accurate census of the animals within the animal care facilities.

Dynasys Animal Care Warehouse Management System (DACWMS) utilizes Ultra-High Frequency (UHF) Electronic Product Code (EPC) Generation 2 RFID tag technology developed by Texas Instruments and Intermec. EPC Gen2 has become the worldwide open standard for tagging all products moving through the supply chain. Dynasys now offers this proven RFID technology to the Animal Care industry.