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United States Department of Agriculture
Animal and Plant Health Inspection Service
Regulatory Enforcement and Animal Care, Western Sector
9580 Micron Avenue, Suite E
Sacramento, CA 95827-2623

Annual Report of Research Facility
University of California, Davis
Addendum

Since many agricultural studies have potential biomedical applications, and since any of our farm animals could be used for teaching veterinary students, we have included all farm animals used on campus in this report. The vast majority of these farm animals are used in agricultural studies.

Explanations for numbers shown under column "E":

These ground squirrels were used in agricultural studies of in which rodenticide baits were being developed and studied. These were primarily field studies in which rodents were poisoned. Both the acceptance of the bait and it's efficacy must be studied. The Environmental Protection Agency requires that the lethal dose of the agent be defined. In order to determine the lethal dose, death is a necessary endpoint because animals exhibiting signs of toxicity might still recover, so euthanasia renders the studies invalid. Likewise anesthetics or analgesics affect the toxic dose of the rodenticide and would render the data invalid. Anesthetics would also prevent the animal from ingesting the bait and thus interfere with assessment of it's palatability.

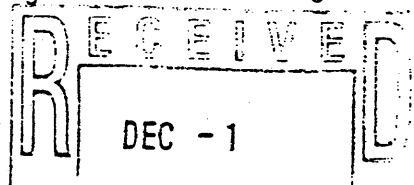
Efficacy studies are required by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Information about the Act and its requirements is given on the Environmental Protection Agency's website at <http://www.epa.gov/reg50opa/defs/html/fifra.htm>. The regulations are given in Title 7 US Code, s/s et seq. (1972).

Exceptions to provisions of the Act:

With respect to the general prohibition of multiple survival surgery, the Administrator of USDA has granted an exception in which cesarean sections are sometimes performed in normal female primates during successive pregnancies. This exception applied to 80 animals during the reporting period.

Justification for cesarean sections

Studies of birth defects and growth retardation require that pregnancies be terminated by cesarean section at a standardized time point to allow for careful examination of fetuses for defective development and fetal weight. Allowing these pregnancies to proceed to full term has several pitfalls, including possible loss of the infant (and experimental data) due to maternal cannibalization if it is born dead, prematurely, or with a serious defect. In addition, the large range in gestational age at normal delivery would make it difficult to accurately assess birth weight, an important indicator of normality in these studies. Taking the infant by cesarean section gives us the highest chance of obtaining a viable infant.



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Justification for multiple cesarean sections in the same animal

Multiple cesarean sections are routinely performed in human females. Animals undergoing hysterotomies at the CRPRC rarely have post surgical complications and are fertile post-operatively. Any animal with complications will be dropped from the protocol. Post operative animals do not demonstrate any handicaps or ill health following the cesarean.

Our practice has been to maintain a breeding colony which provides the required pregnancies for these studies. Multiple use of animals allows us to use purpose bred animals from our colony rather than capturing wild primates. One can see that if we use 100 animals per year, and if these animals could never be used again, it would be necessary to import additional animals rather than use our existing breeding colony. Also, without multiple use, animals having already had a cesarean section, (many of our animals have), could not be utilized in the breeding colony.

The net effect of using these animals only once would be that an increased number of primates would be used, and that possibly a number of animals might be euthanized that would otherwise remain in our breeding colony for many years. Approval of this exception will allow us to continue our studies while minimizing the number of animals used, minimizing our use of threatened species from the wild, and prolonging the useful lives of our breeding animals.

In a few other studies, the IACUC has granted exceptions to allow primates to be maintained on regiments of restricted water intake. These are studies in which the animal receives water or other liquids as a reward for performing tasks. If the animals were satiated with water outside of the study period, they might not be motivated to perform the tasks. The animals receive their water during the day as they perform the tasks.

The IACUC and the Primate Center have developed detailed guidelines to insure that these animals receive adequate amounts of water during the day to support their health and well-being. The animals must receive an amount of water daily which is individual calculated for each animal based on their physiologic needs. The animals are also monitored very closely by veterinary staff and animal care staff; however, they are not routinely given two hours free choice access to water twice daily as would otherwise be required in the regulations. This exception applied to 13 animals during this reporting period.

Sincerely,

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(b)(7)(c)

