

COST ACCOUNTING FOR AN  
ANIMAL RESOURCE FACILITY

by

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## INTRODUCTION

Although many reports are available concerning the housing, maintenance and care of research animals, very little has been published concerning cost analysis and rate setting procedures within research animal facilities (1,2). On a long term basis, animals will be effectively cared for only when an animal facilities' management and its users are fully aware of the financial committment involved. This report explains an equitable procedure for calculating per diem rates for animal care, and includes an extensive study of how much time is actually required to care for each class of animals. It includes a summary of the Fiscal Year 1975-1976 budget for the Animal Resource Facility (ARF), College of Veterinary Medicine, Kansas State University (KSU). Charges assessed to ARF users are made according to per diem rates. These rates include the cost of feed, maintenance and overhead. The feed component is the actual cost of feed purchased. The maintenance component per se recovers salary costs involved in animal care, and is computed for each species in Table 1. Overhead includes items such as expendable supplies, vehicle maintenance, etc. and when charged back to users, is based on a percentage of the maintenance cost. These rates are based on actual costs (Table 2) but are adjusted somewhat by the Animal Resource Committee (3). Actual charges made by ARF are not necessarily those calculated from the data presented here. The College of Veterinary Medicine and KSU subsidizes ARF with buildings (including general heating, cooling, and Board of Regents programmed maintenance and repair costs) and unclassified salaries. Thus, the rates charged by ARF are below the "break-even" point. However, because of the way the ARF budget is developed, it is hoped that this report can serve as a guide for persons budgeting for a similar facility.

## ANIMAL RESOURCE FACILITY OPERATING PROCEDURES

The Animal Resource Facility at KSU operates on a partial charge-back system. It must recover costs of animal care, student salary, and general operation from the research and teaching programs utilizing ARF services. Classified and unclassified employee salaries (except one-half of the ARF Veterinarian salary) and capital improvements are paid by the KSU College of Veterinary Medicine. One-half the salary of the Resource Veterinarian is paid by the University Administration. Building funds are appropriated by the Kansas State Board of Regents and are not charged to investigators and teachers.

The daily costs of maintaining animals can be divided into three categories. Feed, bedding and similar items are in the first category. Second is "maintenance", which includes the cost of classified employees providing care for the animals plus the cost of student help working with them. Third, "overhead" includes such items as expendable supplies, vehicle and facility repair, medicinal preparations and protective clothing.

Overhead charges are very difficult to allocate to individual animals. The practice at ARF is to recover overhead by charging it as a percentage of the maintenance charge. This is equitable since overhead costs are an indirect function of time spent caring for the animals.

Maintenance charges are established to recover overhead and operating expenses and student salaries (Table 2). Overhead expenses include the purchase of all items necessary for routine operation of ARF, such as: (1) expendable supplies (trash bags, detergent, etc.); (2) vehicle maintenance (fuel, oil, service, repairs, etc.); (3) supplemental utilities (telephone, supplemental heating fuel and electricity, to include upkeep of auxiliary heating and cooling systems); (4) maintenance of facilities (minor repairs, general upkeep, supplemental painting, etc.); (5) medicinal preparations (antibiotics, vaccines,

etc.); (6) repair of small equipment items (replacement parts for small equipment, specialized labor hired to make repairs, etc.); (7) office machine rental (Xerox machine); and (8) protective clothing (coveralls, overshoes, gloves, etc.). Operating expenses include funds that must be available to purchase animals, medicines and expendable supplies used by ARF, investigators and teachers. These funds also purchase supplies for limited area remodeling or minor improvement projects that utilize ARF personnel. Supplemental student salaries are included in this charge as ARF pays the wages of students it utilizes.

Per diem rates at ARF are established by the Animal Resource Committee (3), composed of department heads within the College of Veterinary Medicine. The Dean of the College is an ex officio member. It is their intent to provide KSU teachers and researchers, both inside and outside the College of Veterinary Medicine, with animals and services of a high quality at the lowest reasonable cost consistent with good management.

Costs per animal per day (per diem charges) depend on whether the animal user is in the College of Veterinary Medicine, or in another University college. Outside the College of Veterinary Medicine the investigator or teacher pays for feed and bedding, plus 105% of the maintenance charge. Within the College of Veterinary Medicine, investigators and teachers pay for feed and bedding plus an overhead charge that is 25% of the maintenance charge. No charge for maintenance is made to Veterinary Medicine faculty since the College of Veterinary Medicine pays for ARF classified and unclassified employees. In general, all charges are based on average costs so that one investigator is not expected to pay more or less for a type of service than any other teacher or investigator during a specific period of time. Per diem and ancillary service charges are stable and are normally set once a year.

Maintenance rate is defined here as the average cost per minute of the classified employee and the students supervised by him. Unclassified employee (director, operational manager and veterinarian) salaries are not included. Actual animal care is accomplished by nine classified employees (Animal Caretakers) and student assistants. A classified Clerk-Stenographer II, with student assistants, is responsible for billing and record keeping. The maintenance rate during Fiscal Year 1975-1976 was \$4.28 per hour (\$.071 per minute). It did not allow recovery of all maintenance and overhead expenses incurred by ARF. Table 3 includes data indicating that an additional operating subsidy of \$5,939 was needed from the College of Veterinary Medicine to balance the budget. Because overhead is charged as a percentage of the maintenance charge, an under-estimation of maintenance also causes an under-recovery of overhead. The current maintenance rate at ARF is \$5.94 per hour (\$.099 per minute).

Maintenance rate is calculated in the following manner. In Fiscal Year 1975-1976, ARF "paid" \$106,045 for 1,248,000 minutes of classified time, plus \$17,237 for student salaries (Table 2). Thus  $(\$106,045 + \$17,237) \div 1,248,000 = \$0.099$  per minute of classified time (\$5.94 per hour). This current maintenance rate is expected to provide total overhead, operating expense and student salary recovery through the ARF charge-back system during Fiscal Year 1976-1977. The maintenance charge, used in calculating per diem charges, is the maintenance rate (\$.099 per minute in Fiscal Year 1976-1977) multiplied by a time allocation factor representative of the particular animal specie.

One example of how the maintenance rate is utilized in per diem rate schedules is documented for Canines in Table 1-1. There were 47,229 canine housing days in Fiscal Year 1975-1976. During the survey period of May, June, December, 1975, and January, 1976, there were 15,075 canine housing days.

Actual time spent providing care for dogs during the survey period was 72,922 minutes, or 4.837 minutes per dog per day. This equates to 4.837 minutes times 47,229 canine housing days, or 228,447 minutes per year allotted to dogs. Total direct animal care time for all species in Fiscal Year 1975-1976 was 894,708 minutes, so 25.533% of that time was allotted to dogs. During Fiscal Year 1975-1976 a total of 1,248,000 minutes of classified employee time were purchased by ARF. Ancillary services used 200,838 minutes, and 1,047,162 minutes were left to recover from per diem charges. This leaves 152,424 minutes (1,047,162 - 894,708) used as vacation, breaks, and performance of tasks not directly related to animal care. Thus, 267,372 minutes (25.533% of 1,047,162 minutes) were allotted to dogs, both directly and indirectly, yielding an adjusted time per dog per day of 5.661 minutes (267,372 minutes ÷ 47,229 canine housing days). Applying the maintenance rate of \$.099 per minute (\$5.94 per hour) yields a maintenance charge for dogs of 5.661 minutes times \$.099 per minute, or \$.560 per dog per day at 100% maintenance recovery. This method is used to determine all 100% maintenance charges for per diem rate schedules in Table 1, based on animal housing days presented in Table 4.

Over the past few years, ARF has recognized that investigators and teachers utilize animal care services more if maximum per diem rates are quite specific. ARF has maintained accurate records on animal care time and maintenance in animal quarters. Table 4 includes data on 644,051 animal housing days which were provided by ARF during Fiscal Year 1975-1976. Income was recovered from 476,488 animal housing days for the College of Veterinary Medicine and 118,092 animal housing days for other University departments. 49,471 animal housing days were used by ARF during the year for quarantine, non-terminal animal housing, and accumulation of animals for large orders. Each semester, typical teaching orders include 50 to 75 dogs, 12 sheep, 12 goats, and six ponies.

These orders are filled as the animals are processed, but in general are not placed on the instructors per diem until actual time for delivery to class.

Animals purchased by ARF are sold to investigators and teachers according to usage. Small laboratory animals (guinea pigs, mice, rats, rabbits, etc.) which are purchased from vendors are always sold for terminal usage. Actual animal cost is arrived at by adding the price per animal, ordering costs (phone charges, etc.), transportation and shipping charges, and delivery charges to their campus housing location. This total charge is divided by the number of animals received in the shipment to arrive at a cost per animal for direct recharge to the investigator or teacher. These animals are immediately placed on investigator or teacher per diems upon acceptance at ARF. Livestock (cattle, horses, sheep, etc.) are sold for terminal or non-terminal usage depending on suitability for future use. Animal cost includes the initial purchase price, ordering costs, transportation and shipping charges, medication administered during a quarantine period, and delivery charges. Since purchase price varies with each animal, this cost is calculated for each order placed through ARF. Terminal usage charges for an animal recovers total cost incurred. 60% of terminal cost is recovered each time the animal is used for a non-terminal project and the animal is to be returned to ARF at the completion of the project. Housing cost reverts to ARF between animal usage periods. Since the volume of dogs and cats is high at ARF, and the sources remain reasonably constant, charges have been calculated and a standard rate is in effect for their usage. Current costs, at 100% maintenance recovery, are included in Table 5 and Table 6 for dogs and cats respectively.

Ancillary service activities provided by ARF include any service not part of routine care. The ancillary responsibilities of ARF (3) are dependent upon availability of facilities, personnel and space and include: (1) provide products in excess of those provided in basic care (special diets, animal



biologic products, etc.); (2) provide special services (conditioning of primates, special feeding times, shearing of sheep, etc.) as requested; (3) provide special animal health care (vaccinations, periodic parasite control, etc.) as requested; and (4) perform teaching functions, to include acquainting students with the operation of animal colonies. 200,838 minutes were utilized during Fiscal Year 1975-1976 for providing these services (6.21% of classified employee time).

#### ANIMAL RESOURCE FACILITY BUDGET, FISCAL YEAR 1975-1976

Actual accountable expenses incurred by ARF during Fiscal Year 1975-1976 totaled \$305,186. Recoverable and non-recoverable expenditures are itemized in Table 2. Income from all categories is outlined in Table 3. Subsidized, indirect receipts total \$196,257, or 64.31% of ARF income. Classified and unclassified employee salaries of \$138,158 account for 45.27% of subsidized income. Capital improvement funds (not a part of the University maintenance and repair program) of \$52,160 account for an additional 17.09% of subsidized income. An additional subsidy of \$5,939 (1.95%) was provided by the College of Veterinary Medicine to balance the budget. Of the \$108,929 recovered from research and teaching projects, 57.13% was from per diem charges, 26.05% from animal sales, and 16.28% from ancillary services and direct sale of miscellaneous supplies.

#### ADJUSTMENT FOR MAINTENANCE RECOVERY

If the present ARF partial charge-back system had recovered 100% of maintenance charges through per diem charges and ancillary services, it would have required increasing recovery to 66.96% of the total budget (32.47% was

actually recovered). Hypothetical income from all categories at 100% maintenance recovery (Table 7) predicts that a supplemental deficit in overhead amounting to \$100,827 (33.04%) will still remain to be subsidized by the College of Veterinary Medicine. Hypothetical individual animal charges based on 100% maintenance per diem rates and 100% maintenance per diem recovery are included by per diem classification in Table 8.

#### BREAK-EVEN BUDGET ADJUSTMENT

Table 9 is included to show the effect of a hypothetical increase in per diem charges if ARF had been required to operate without a subsidy. Per diem rates at 100% maintenance recovery (Table 8) were increased by 85% to reflect a hypothetical complete recovery of the ARF budget. All other variables remained constant during this adjustment. Individual per diem charges and 185% hypothetical recovery by per diem classification are included in Table 10. Per diem rates would be much higher in this hypothetical charge-back system. This budget is largely self-supporting, but does not include provisions for building maintenance and repairs or heating, cooling, and lighting costs subsidized by the University. No provision is made for adjustments due to price increases in feed or supplies while the per diem rates remain in effect. These per diem charges should, however, serve as broad guidelines for such applications as in-house accounting for the drug industry, or for a university establishing an animal resource facility independent of a college and operating without a subsidy.

Table 1

Per diem rate schedules

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The schedules that follow were used to prepare per diem charges at ARF<sup>a</sup> for Fiscal Year 1976-1977. Totals have been adjusted to provide hypothetical per diem recovery data at 100% maintenance rates and at 185% adjusted rates to provide hypothetical total overhead recovery.

A maintenance category which refers to 894,708 minutes per year is included in each per diem classification. This is the total number of minutes recorded for animal care for all species during Fiscal Year 1975-1976. It is used to determine the percentage of actual animal care time recorded for each classification.

Each per diem maintenance category also contains an adjustment factor of 1,047,162 minutes per year for animal care. It takes into consideration classified employee time (1,248,000 minutes) minus actual ancillary service time (200,838 minutes) recorded for Fiscal Year 1975-1976. This figure was utilized in conjunction with the ARF maintenance rate formula to provide a factor for adjustment of animal care times not recorded during survey periods. It also allows for vacation, holiday and sick leave time for Animal Caretakers, and for rest periods during daily animal care services.

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<sup>a</sup>Animal Resource Facility, College of Veterinary Medicine, KSU.

Table 1-1

Factors used in establishing per diem charges for canines

Dogs weighing: <sup>a</sup>	<25 lb.		25-50 lb.		>50 lb.	
	100%	185%	100%	185%	100%	185%
Feed <sup>b</sup>	\$ .172	.172	.331	.331	.492	.492
Maintenance <sup>c</sup>	.560	.560	.560	.560	.560	.560
Adjustment	<u>.000</u>	<u>.622<sup>d</sup></u>	<u>.000</u>	<u>.757<sup>e</sup></u>	<u>.000</u>	<u>.894<sup>f</sup></u>
	\$ .732	1.354	.891	1.648	1.052	1.946

<sup>a</sup>Canine charges are based on weight category.

<sup>b</sup>Feed: Average 1975 dog food price = \$9.90/50 lb. ÷ 50 = \$.198/lb.  
 Average 1975 puppy food price = \$12.08/50 lb. ÷ 50 = \$.242/lb.  
 Average canned dog food price in 1975 = \$.272/lb.

40,500 lb. dog food used X \$.198/lb. = \$ 8,019.00  
 6,450 lb. puppy food used X \$.242/lb. = 1,560.90  
743 lb. canned dog food used X \$.272/lb. = 202.10  
 47,693 lb. \$ 9,782.00

\$9,782.00 ÷ 47,693 lb. feed purchased in 1975 = \$.205/lb. average feed cost in 1975.

<25 lb. dog consumes .840 lb./day average X \$.205/lb. = \$.172/day.  
 25-50 lb. dog consumes 1.613 lb./day average X \$.205/lb. = \$.331/day.  
 >50 lb. dog consumes 2.400 lb./day average X \$.205/lb. = \$.492/day.

<sup>c</sup>Maintenance: 47,229 total animal days in 1975. 15,075 animal days for the survey period of May, June, Dec., 1975 and Jan., 1976. Actual time recorded for the above period = 72,922 min ÷ 15,075 animal days/period = 4.837 min/animal X 47,229 animal days/yr = 228,447 min/yr ÷ 894,708 min/yr = 25.533% of total X 1,047,162 min/yr = 267,372 min/yr adjusted time ÷ 47,229 animal days/yr = 5.661 min/animal/day adjusted X \$5.94 per hour (\$.099/min) = \$.560/day at 100%.

<sup>d</sup>Adjustment: \$.732 X 85% = \$.622.

<sup>e</sup>Adjustment: \$.891 X 85% = \$.757.

<sup>f</sup>Adjustment: \$1.052 X 85% = \$.894.

Table 1-2

Factors used in establishing per diem charges for young calves from birth up to 150 pounds body weight (1 to 6 weeks of age)

	Inside			
	No Bedding		Bedding	
	100%	185%	100%	185%
Alfalfa <sup>a</sup>	\$ .070	.070	.070	.070
Calf starter pellets <sup>b</sup>	.064	.064	.064	.064
Milk replacer <sup>c</sup>	.143	.143	.143	.143
Straw <sup>d</sup>	.000	.000	.096	.096
Dumpster <sup>e</sup>	.000	.000	.102	.102
Maintenance	2.772 <sup>f</sup>	2.772 <sup>f</sup>	2.075 <sup>h</sup>	2.075 <sup>h</sup>
Adjustment	.000	2.592 <sup>g</sup>	.000	2.168 <sup>i</sup>
	\$ 3.049	5.641	2.550	4.718

<sup>a</sup>Alfalfa: 226 total animal days in 1975 X 1.5 lb. that should be fed for a balanced ration = 339 lb./yr ÷ 241,165 lb. that should be fed (all species) = .141% of total X 329,690 lb. purchased in 1975 = 465 lb. fed/yr ÷ 226 animal days = 2.058 lb./day fed X \$.034/lb. = \$.070/day.

<sup>b</sup>Calf starter pellets: 226 total animal days in 1975 X 1.5 lb./day that should be fed for a balanced ration = 339 lb./yr ÷ 10,972 lb. that should be fed (all species) = 3.090% of total X 6,650 lb. purchased in 1975 = 206 lb. fed/yr ÷ 226 animal days = .912 lb./day fed X \$.070/lb. = \$.064/day.

<sup>c</sup>Milk replacer: 226 total animal days in 1975 X 1.0 lb./day that should be fed for a balanced ration = 226 lb./yr ÷ 226 lb. that should be fed (all species) = 100% of total X 125 lb. purchased in 1975 = 125 lb. fed/yr ÷ 226 animal days = .553 lb./day fed X \$.258/lb. = \$.143/day.

<sup>d</sup>Straw: 24 total animal days in 1975 X 3.945 lb./day (from 1974 per-diem rates) = 95 lb. that should be used/yr ÷ 52,636 lb. that should be used (all species) = .180% of total X 45,393 lb. purchased in 1975 = 82 lb. used/yr ÷ 24 animal days/yr = 3.417 lb./day X \$.028/lb. = \$.096/day.

<sup>e</sup>Dumpster: (Based on 1974 per diem rates). \$1.90 each/day ÷ 1.515 stalls/dumpster = \$1.254/stall ÷ 3.08 day cleaning interval = \$.407/day ÷ 4 calves/stall maximum = \$.102/day.

<sup>f</sup>Maintenance, inside, no bedding: 202 animal days for 1975. 14 animal days for survey period of December, 1975 and January, 1976. 335 actual minutes recorded for care in above period ÷ 14 animal days/period = 23.929 min/animal X 202 animal days/yr = 4,834 min/yr ÷ 894,708 min/yr = .540% of total X 1,047,162 min/yr = 5,655 min/yr adjusted time ÷ 202 animal days/yr = 27.995 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$2.772/day at 100%.

<sup>g</sup>Adjustment: \$3.049 X 85% = \$2.592.

## Calf, birth-150 lbs. (1-6 weeks), continued

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<sup>h</sup>Maintenance, inside, bedding: 24 animal days for 1975. Time requirements as listed on 1974 per diem tables = 17.831 min/day X 24 animal days/yr = 428 min/yr ÷ 894,708 min/yr = .048% of total X 1,047,162 min/yr = 503 min/yr adjusted time ÷ 24 animal days/yr = 20.958 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$2.075/day at 100%.

<sup>i</sup>Adjustment: \$2.550 X 85% = \$2.168.

Table 1-3

Factors used in establishing per diem charges for cattle  
weighing 150 to 400 pounds (7-22 weeks of age)

		Inside				Outside	
		No Bedding		Bedding		100%	185%
		100%	185%	100%	185%		
Alfalfa <sup>a</sup>	\$	.256	.256	.256	.256	.256	.256
Calf starter pellets <sup>b</sup>		.106	.106	.106	.106	.106	.106
Straw <sup>c</sup>		.000	.000	.095	.095	.000	.000
Dumpster <sup>d</sup>		.000	.000	.204	.204	.000	.000
Lot maintenance <sup>e</sup>		.000	.000	.000	.000	.036	.036
Maintenance		2.009 <sup>f</sup>	2.009 <sup>f</sup>	1.903 <sup>h</sup>	1.903 <sup>h</sup>	.718 <sup>j</sup>	.718 <sup>j</sup>
Adjustment		.000	2.015 <sup>g</sup>	.000	2.179 <sup>i</sup>	.000	.949 <sup>k</sup>
	\$	2.371	4.386	2.564	4.743	1.116	2.065

<sup>a</sup>Alfalfa: 1,574 total animal days in 1975 X 5.5 lb./day that should be fed for a balanced ration = 8,657 lb./yr ÷ 241,165 lb. that should be fed (all species) = 3.590% of total X 329,690 lb. purchased in 1975 = 11,836 lb. fed/yr ÷ 1,574 animal days = 7.520 lb./day fed X \$.034/lb. = \$.256/day.

<sup>b</sup>Calf starter pellets: 1,574 animal days in 1975 X 2.5 lb./day that should be fed for a balanced ration = 3,935 lb./yr ÷ 10,972 lb. that should be fed (all species) = 35.864% of total X 6,650 lb. purchased in 1975 = 2,385 lb. fed/yr ÷ 1,574 animal days = 1.515 lb./day X \$.070/lb. = \$.106/day.

<sup>c</sup>Straw: 182 animal days in 1975 X 3.945 lb./day (from 1974 per diem rates) = 718 lb. that should be used ÷ 52,636 lb. that should be used (all species) = 1.364% of total X 45,393 lb. purchased in 1975 = 619 lb. used/yr ÷ 182 animal days/yr = 3.401 lb./day X \$.028/lb. = \$.095/day.

<sup>d</sup>Dumpster: (Based on 1974 per diem figures). \$1.90 each/day ÷ 1.515 stalls per dumpster = \$1.254/stall ÷ 3.08 day cleaning interval = \$.407/day ÷ two calves/stall maximum = \$.204/day.

<sup>e</sup>Lot maintenance: \$240.96 Physical Plant cost for cleaning 11 pens = \$21.91/pen ÷ 365 days = \$.060/day ÷ 2.314 average animals/day = \$.026/day ÷ \$.071/min = .366 min/day X \$.099/min = \$.036/day.

<sup>f</sup>Maintenance, inside, no bedding: 992 animal days for 1975. 62 animal days for the survey period of Dec. 1975 and Jan. 1976. 1,075 actual minutes recorded for care in the above period ÷ 62 animal days/period = 17.339 min/animal X 992 animal days/yr = 17.200 min/yr ÷ 394,708 min/yr = 1.922% of total X 1,047,162 min/yr = 20,126 min/yr adjusted time ÷ 992 animal days/yr = 20.288 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$2.009/day at 100%.

<sup>g</sup>Adjustment: \$2.371 X 85% = \$2.015.

Table 1-3

Cattle, 150-400 lbs. (7-22 weeks), continued

<sup>h</sup>Maintenance, inside, bedding: 182 animal days for 1975. Time requirements as listed on 1974 per diem tables = 16.439 min/day X 182 animal days/yr = 2,992 min/yr ÷ 894,708 min/yr = .334% of total X 1,047,162 min/yr = 3,498 min/yr adjusted time ÷ 182 animal days/yr = 19.220 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$1.903/day at 100%.

<sup>i</sup>Adjustment: \$2.564 X 85% = \$2.179.

<sup>j</sup>Maintenance, outside: 400 animal days for 1975. Time requirements as listed on 1974 per diem tables = 6.200 min/day X 400 animal days/yr = 2,480 min/yr ÷ 894,708 min/yr = .277% of total X 1,047,162 min/yr = 2,901 min/yr adjusted time ÷ 400 animal days/yr = 7.253 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$1.718/day at 100%.

<sup>k</sup>Adjustment: \$1.116 X 85% = \$1.949.



Table 1-4

Factors used in establishing per diem charges for cattle  
weighing 400 to 800 pounds (23-48 weeks of age)

		Inside				Outside	
		No Bedding		Bedding		100%	185%
		100%	185%	100%	185%		
Alfalfa <sup>a</sup>	\$	.349	.349	.349	.349	.349	.349
Prairie hay <sup>b</sup>		.227	.227	.227	.227	.227	.227
Calf pellets <sup>c</sup>		.106	.106	.106	.106	.106	.106
Protein blocks <sup>d</sup>		.004	.004	.004	.004	.004	.004
Salt & TM blocks <sup>e</sup>		.001	.001	.001	.001	.001	.001
Straw <sup>f</sup>		.000	.000	.191	.191	.000	.000
Dumpster <sup>g</sup>		.000	.000	.204	.204	.000	.000
Lot maintenance <sup>h</sup>		.000	.000	.000	.000	.036	.036
Maintenance		2.240 <sup>i</sup>	2.240 <sup>i</sup>	.927 <sup>k</sup>	.927 <sup>k</sup>	.719 <sup>m</sup>	.719 <sup>m</sup>
Adjustment		.000	2.488 <sup>j</sup>	.000	1.708 <sup>l</sup>	.000	1.226 <sup>n</sup>
	\$	2.927	5.415	2.009	3.717	1.442	2.668

<sup>a</sup>Alfalfa: 2,679 total animal days in 1975 X 7.5 lb./day that should be fed for a balanced ration = 20,093 lb./yr ÷ 241,165 lb. that should be fed (all species) = 8.332% of total X 329,690 lb. purchased in 1975 = 27,470 lb. fed/yr ÷ 2,679 animal days = 10.254 lb./day fed X \$.034/lb. = \$.349/day.

<sup>b</sup>Prairie hay: 2,679 total animal days in 1975 X 9.0 lb./day that should be fed for a balanced ration = 24,111 lb./yr ÷ 293,753 lb. that should be fed (all species) = 8.208% of total X 308,303 lb. purchased in 1975 = 25,306 lb. fed/yr ÷ 2,679 animal days = 9.446 lb./day fed X \$.024/lb. = \$.227/day.

<sup>c</sup>Calf pellets: 2,679 total animal days in 1975 X 2.5 lb./day that should be fed for a balanced ration = 6,698 lb./yr ÷ 10,972 lb. that should be fed (all species) = 61.046% of total X 6,650 lb. purchased in 1975 = 4,060 lb. fed/yr ÷ 2,679 animal days = 1.515 lb./day X \$.070/lb. = \$.106/day.

<sup>d</sup>Protein blocks: 2,679 total animal days in 1975 ÷ 18,860 animal days receiving protein blocks = 14.205% of total X 962 lb. purchased in 1975 = 137 lb. fed/yr ÷ 2,679 animal days = .051 lb./day X \$.076/lb. = \$.004/day.

<sup>e</sup>Salt & TM blocks: 2,679 total animal days in 1975 ÷ 73,760 animal days receiving salt and TM blocks = 3.632% of total X 1,600 lb. purchased in 1975 = 58 lb. fed/yr ÷ 2,679 animal days = .022 lb./day X \$.031/lb. = \$.001/day.

<sup>f</sup>Straw: 104 animal days in 1975 X 7.890 lb./day (from 1974 per diem rates) = 821 lb./yr ÷ 52,636 lb. that should be used (all species) = 1.560% of total X 104 animal days/yr = 6.808 lb./day X \$.028/lb. = \$.191/day.

Table 1-4

Cattle, 400-800 lbs. (23-48 weeks), continued

- <sup>g</sup>Dumpster: (Based on 1974 per diem figures). \$1.90 each/day ÷ 1.515 stalls/dumpster = \$1.254/stall ÷ 3.08 day cleaning interval = \$.407/day ÷ 2 calves/stall maximum = \$.204/day.
- <sup>h</sup>Lot maintenance: \$240.96 Physical Plant charge for cleaning 11 pens = \$21.91/pen ÷ 365 days = \$.060/day ÷ 2.314 average animals/day = \$.026/day ÷ \$.071/min = .366 min/day X \$.099/min = \$.036/day.
- <sup>i</sup>Maintenance, inside, no bedding: 1,616 animal days for 1975. 75 animal days for survey period of December, 1975 and January, 1976. Actual minutes recorded for care in above period = 1,450 min ÷ 75 animal days/period = 19.333 min/animal X 1,616 animal days/yr = 31,242 min/yr ÷ 894,708 min/yr = 3.492% of total X 1,047,162 min/yr = 36,567 min/yr adjusted time ÷ 1,616 animal days/yr = 22.628 min/animal/day adjusted X \$5.94/hr. (\$.099/min) = \$2.240/day at 100%.
- <sup>j</sup>Adjustment: \$2.927 X 85% = \$2.488.
- <sup>k</sup>Maintenance, inside, bedding: 104 animal days for 1975. Time requirements as listed on 1974 per diems = 7.970 min/day X 104 animal days/yr = 829 min/yr ÷ 894,708 min/yr = .093% of total X 1,047,162 min/yr = 974 min/yr adjusted time ÷ 104 animal days/yr = 9.365 min/animal/day adjusted X \$5.94/hr. (\$.099/min) = \$.927/day at 100%.
- <sup>l</sup>Adjustment: \$2.009 X 85% = \$1.708.
- <sup>m</sup>Maintenance, outside: 959 animal days for 1975. Time requirements as listed on 1974 per diems = 6.200 min/day X 959 animal days/yr = 5,946 min/yr ÷ 894,708 min/yr = .665% of total X 1,047,162 min/yr = 6,964 min/yr adjusted time ÷ 959 animal days/yr = 7.262 min/animal/day adjusted X \$5.94/hr. (\$.099/min) = \$.719/day at 100%.
- <sup>n</sup>Adjustment: \$1.442 X 85% = \$1.226.

Table 1-5

Factors used in establishing per diem charges for adult cattle  
(average weight = 1,000 lbs.)

	Inside				Outside	
	No Bedding		Bedding		100%	185%
	100%	185%	100%	185%		
Alfalfa <sup>a</sup>	\$ .325	.325	.325	.325	.325	.325
Prairie hay <sup>b</sup>	.403	.403	.403	.403	.403	.403
Protein blocks <sup>c</sup>	.004	.004	.004	.004	.004	.004
Salt & TM blocks <sup>d</sup>	.001	.001	.001	.001	.001	.001
Straw	.000	.000	.196 <sup>e</sup>	.196 <sup>e</sup>	.000 <sup>f</sup>	.000 <sup>f</sup>
Dumpster <sup>g</sup>	.000	.000	.407	.407	.000	.000
Lot maintenance <sup>h</sup>	.000	.000	.000	.000	.036	.036
Maintenance	2.193 <sup>i</sup>	2.193 <sup>i</sup>	1.023 <sup>k</sup>	1.023 <sup>k</sup>	.718 <sup>m</sup>	.718 <sup>m</sup>
Adjustment	.000	2.487 <sup>j</sup>	.000	2.005 <sup>l</sup>	.000	1.264 <sup>n</sup>
	\$ 2.926	5.413	2.359	4.364	1.487	2.751

<sup>a</sup>Alfalfa: 12,041 animal days in 1975 X 7.0 lb./day that should be fed for a balanced ration = 84,287 lb./yr ÷ 241,165 lb. that should be fed (all species) = 34.950% of total X 329,690 lb. purchased in 1975 = 115,227 lb. fed/yr adjusted ÷ 12,041 animal days = 9.570 lb./day fed X \$.034/lb. = \$.325/day.

<sup>b</sup>Prairie hay: 12,041 animal days in 1975 X 16.0 lb./day that should be fed for a balanced ration = 192,656 lb./yr ÷ 293,753 lb. that should be fed (all species) = 65.584% of total X 308,303 lb. purchased in 1975 = 202,197 lb. fed/yr ÷ 12,041 animal days = 16.792 lb./day fed X \$.024/lb. = \$.403/day.

<sup>c</sup>Protein blocks: 12,041 animal days in 1975 ÷ 18,860 animal days receiving protein blocks = 63.844% of total X 962 lb. purchased in 1975 = 614 lb. fed/yr ÷ 12,041 animal days = .051 lb./day X \$.076/lb. = \$.004/day.

<sup>d</sup>Salt & TM blocks: 12,041 animal days in 1975 ÷ 73,760 animal days receiving salt & TM blocks = 16.325% of total X 1,600 lb. purchased in 1975 = 261 lb. fed/yr ÷ 12,041 animal days = .022 lb./day X \$.031/lb. = \$.001/day.

<sup>e</sup>Straw: 3 animal days in 1975 X 7.890 lb./day (from 1974 per diems) = 24 lb./yr that should be used ÷ 52,636 lb. that should be used (all species) = .046% of total X 45,393 lb. purchased in 1975 = 21 lb. used/yr ÷ 3 animal days/yr = 7.0 lb./day X \$.028/lb. = \$.196/day.

<sup>f</sup>Straw: Does not include straw used in the outside Surgery & Medicine lot for teaching cows. This will be added as an extra charge on monthly invoices.

<sup>g</sup>Dumpster: (Based on 1974 per diem figures). \$1.90 each/day ÷ 1.515 stalls/dumpster = \$1.254/stall ÷ 3.08 day cleaning interval = \$.407/day.

Table 1-5

Cattle, Adult (average weight = 1,000 lbs.), continued

<sup>h</sup>Lot maintenance: \$240.96 Physical Plant charge for cleaning 11 pens =  
 $\$21.91/\text{pen} \div 365 \text{ days} = \$.060/\text{day} \div 2.314 \text{ average animals/day} = \$.026/\text{day}$   
 $\div \$.071/\text{min} = .366 \text{ min/day} \times \$.099/\text{min} = \underline{\$.036/\text{day}}.$

<sup>i</sup>Maintenance, inside, no bedding: 304 animal days for 1975. 174 animal days for survey period of December, 1975 and January, 1976. Actual time recorded for above period = 3,294 min  $\div$  174 animal days/period = 18.931 min/animal  $\times$  304 animal days/yr = 5,755 min/yr  $\div$  894,708 min/yr = .643% of total  $\times$  1,047,162 min/yr = 6,733 min/yr adjusted time  $\div$  304 animal days/yr = 22.148 min/day adjusted time  $\times$  \$5.94/hr. (\$.099/min) = \$2.193/day at 100%.

<sup>j</sup>Adjustment:  $\$2.926 \times 85\% = \underline{\$2.487}.$

<sup>k</sup>Maintenance, inside, bedding: 3 animal days for 1975. Time requirements as listed on 1974 per diems = 7.970 min/day  $\times$  3 animal days/yr = 24 min/yr  $\div$  894,708 min/yr = .003% of total  $\times$  1,047,162 min/yr = 31 min/yr adjusted time  $\div$  3 animal days/yr = 10.333 min/animal/day adjusted  $\times$  \$5.94/hr. (\$.099/min) = \$1.023/day at 100%.

<sup>l</sup>Adjustment:  $\$2.359 \times 85\% = \underline{\$2.005}.$

<sup>m</sup>Maintenance, outside: 11,734 animal days for 1975. Time requirements as listed on 1974 per diems = 6.200 min/day  $\times$  11,734 animal days/yr = 72,751 min/yr  $\div$  894,708 min/yr = 8.131% of total  $\times$  1,047,162 min/yr = 85,145 min/yr adjusted time  $\div$  11,734 animal days/yr = 7.256 min/animal/day adjusted  $\times$  \$5.94/hr. (\$.099/min) = \$7.18/day at 100%.

<sup>n</sup>Adjustment:  $\$1.487 \times 85\% = \underline{\$1.264}.$

Table 1-6

Factors used in establishing per diem charges for  
cattle - nursing calves (first 3 months)

	Inside		Outside	
	100%	185%	100%	185%
Alfalfa <sup>a</sup>	\$ .512	.512	.512	.512
Prairie hay <sup>b</sup>	.479	.479	.479	.479
Protein blocks <sup>c</sup>	.004	.004	.004	.004
Salt & TM blocks <sup>d</sup>	.001	.001	.001	.001
Straw <sup>e</sup>	.196	.196	.000	.000
Dumpster <sup>f</sup>	.407	.407	.000	.000
Lot maintenance <sup>g</sup>	.000	.000	.036	.036
Maintenance	.990 <sup>h</sup>	.990 <sup>h</sup>	.718 <sup>j</sup>	.718 <sup>j</sup>
Adjustment	<u>.000</u>	<u>2.201<sup>i</sup></u>	<u>.000</u>	<u>1.488<sup>k</sup></u>
	\$ 2.589	4.790	1.750	3.238

<sup>a</sup>Alfalfa: 222 total animal days in 1975 X 11.0 lb./day that should be fed for a balanced ration = 2,442 lb./yr ÷ 241,165 lb. that should be fed (all species) = 1.013% of total X 329,690 lb. purchased in 1975 = 3,340 lb. fed/yr adjusted ÷ 222 animal days = 15.045 lb./day fed X \$.034/lb. = \$.512/day.

<sup>b</sup>Prairie hay: 222 total animal days in 1975 X 19.0 lb./day that should be fed for a balanced ration = 4,218 lb./yr ÷ 293,753 lb. that should be fed (all species) = 1.436% of total X 308,303 lb. purchased in 1975 = 4,427 lb. fed/yr ÷ 222 animal days = 19.941 lb./day fed X \$.024/lb. = \$.479/day.

<sup>c</sup>Protein blocks: 222 total animal days in 1975 ÷ 18,860 animal days receiving protein blocks = 1.177% of total X 962 lb. purchased in 1975 = 11.0 lb. fed/yr ÷ 222 animal days = .050 lb./day X \$.076/lb. = \$.004/day.

<sup>d</sup>Salt & TM blocks: 222 total animal days in 1975 ÷ 73,760 animal days receiving salt & TM blocks = .301% of total X 1,600 lb. purchased in 1975 = 5.0 lb. fed/yr ÷ 222 animal days = .023 lb./day X \$.031/lb. = \$.001/day.

<sup>e</sup>Straw: 1 animal day in 1975 X 7.890 lb./day (from 1974 per diems) = 8.0 lb./yr that should be used ÷ 52,636 lb. that should be used (all species) = .015% of total X 45,393 lb. purchased in 1975 = 7.0 lb. used/yr ÷ 1 animal day/yr = 7.0 lb./day X \$.028/lb. = \$.196/day.

<sup>f</sup>Dumpster: (Based on 1974 per diem figures). \$1.90 each/day ÷ 1.515 stalls/dumpster = \$1.254/stall ÷ 3.08 day cleaning interval = \$.407/day.

<sup>g</sup>Lot maintenance: \$240.96 Physical Plant cost for cleaning 11 pens = \$21.91/pen ÷ 365 days = \$.060/day ÷ 2.314 average animals/pen = \$.026/day ÷ \$.071/min = .366 min/day X \$.099/min = \$.036/day.

Table 1-6

## Cattle - nursing calves (first 3 months), continued

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<sup>h</sup>Maintenance, inside: 1 animal day for 1975. Time requirements as listed on 1974 per diems = 7.970 min/day X 1 animal day/yr = 8.0 min/yr + 894,708 min/yr = .001% of total X 1,047,162 min/yr = 10.0 min/yr adjusted time + 1 animal day/yr = 10.0 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$.990/day at 100%.

<sup>i</sup>Adjustment: \$2.589 X 85% = \$2.201.

<sup>j</sup>Maintenance, outside: 221 animal days for 1975. Time requirements as listed on 1974 per diems = 6.200 min/day X 221 animal days/yr = 1,370 min/yr + 894,708 min/yr = .153% of total X 1,047,162 min/yr = 1,602 min/yr adjusted time + 221 animal days/yr = 7.249 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$.718/day at 100%.

<sup>k</sup>Adjustment: \$1.750 X 85% = \$1.488.

Table 1-7

Factors used in establishing per diem charges for  
cattle housed at Research Farm<sup>a</sup>

	Cattle		Cow	
	400 lb. to adult		Nursing calf	
	100%	185%	100%	185%
Fixed costs <sup>b</sup>	\$ .351	.351	.351	.351
Protein blocks <sup>c</sup>	.004	.004	.004	.004
Salt & TM blocks <sup>d</sup>	.001	.001	.001	.001
Maintenance	.452 <sup>e</sup>	.452 <sup>e</sup>	.454 <sup>g</sup>	.454 <sup>g</sup>
Adjustment	.000	.686 <sup>f</sup>	.000	.689 <sup>h</sup>
	\$ .808	1.494	.810	1.499

<sup>a</sup> Research Farm per diem is based on a 214 day grazing period (April-October) with no supplemental feed. If feed is required, charges will be based on ARF's dry lot per diem schedules.

<sup>b</sup> Fixed costs: 1975 expenses of \$328.47 for electricity, \$148.20 for telephone, \$98.96 for propane, \$36.00 for tank rental and \$1,361.32 for fertilizer = \$1,972.95 ÷ 214 day grazing period = \$9.219/day. 5,614 total animal days at Research Farm in 1975 ÷ 214 day period = 26.234 average animals/day. \$9.219/day ÷ 26.234 animals/day = \$.351/day.

<sup>c</sup> Protein blocks: 3,918 animal days for 1975 ÷ 18,860 animal days receiving protein blocks = 20.774% of total X 962 lb. purchased in 1975 = 186 lb. fed/yr ÷ 3,918 animal days = .051 lb./day X \$.076/lb. = \$.004/day.

<sup>d</sup> Salt & TM blocks: 3,918 animal days for 1975 ÷ 73,760 animal days receiving salt & TM blocks = 5.312% of total X 1,600 lb. purchased in 1975 = 79 lb. fed/yr ÷ 3,918 animal days = .022 lb./day X \$.031/lb. = \$.001/day.

<sup>e</sup> Maintenance, cattle - 400 lb. to adult: 3,646 animal days for 1975 ÷ 5,614 total animal days at Research Farm (all species) = 64.945% of total X (maintenance requirements based on 60 min/day by resident at Research Farm X 365 days/yr =) 21,190 min/yr = 14,223 min/yr ÷ 894,708 min/yr = 1.590% of total X 1,047,162 min/yr = 16,650 min/yr adjusted time ÷ 3,646 animal days/yr = 4.567 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$.452/day at 100%.

<sup>f</sup> Adjustment: \$.808 X 85% = \$.686.

<sup>g</sup> Maintenance, cow nursing calf: 272 animal days for 1975 ÷ 5,614 animal days at Research Farm (all species) = 4.845% of total X (maintenance requirements based on 60 min/day by resident at Research Farm X 365 days/yr =) 21,900 min/yr = 1,061 min/yr ÷ 894,708 min/yr = .119% of total X 1,047,162 min/yr = 1,246 min/yr adjusted time ÷ 272 animal days/yr = 4.581 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$.454/day at 100%.

<sup>h</sup> Adjustment: \$.810 X 85% = \$.689.



Table 1-8

Factors used in establishing per diem charges for chickens

	Chicks <45 days old		Chickens Adult	
	100%	185%	100%	185%
Feed	\$ .006 <sup>a</sup>	.006 <sup>a</sup>	.031 <sup>e</sup>	.031 <sup>e</sup>
Roll paper <sup>b</sup>	.006	.006	.006	.006
Maintenance	.074 <sup>c</sup>	.074 <sup>c</sup>	.233 <sup>f</sup>	.233 <sup>f</sup>
Adjustment	<u>.000</u>	<u>.073<sup>d</sup></u>	<u>.000</u>	<u>.230<sup>g</sup></u>
	\$ .086	.159	.270	.500

<sup>a</sup>Feed: 400 lb. non-antibiotic feed purchased X \$.075/lb. = \$30.00.  
 200 lb. chick starter purchased X \$.087/lb. = \$17.40.  
50 lb. chick grower purchased X \$.075/lb. = \$ 3.75.  
 650 lb. \$51.15

\$51.15 feed cost ÷ 650 lb. purchased = \$.079/lb. average feed cost.  
 650 lb. feed ÷ 9,017 animal days/yr = .072 lb./chick/day consumed X  
 \$.079/lb. = \$.006/day.

<sup>b</sup>Roll paper: Current price is \$22.20/cwt ÷ 100 = \$.222/lb. 6½ foot usage/day  
 (measured) for 10 chickens = 130 gm/day (measured) ÷ 454 gm/lb. = .286  
 lb./day ÷ 10 chickens = .029 lb./bird/day X \$.222/lb. = \$.006/day.

<sup>c</sup>Maintenance, chicks <45 days old: 9,017 animal days in 1975. 1,113 animal  
 days for the survey period of Jan. and Feb. 1975. Actual time recorded  
 for the above period = 713 min ÷ 1,113 animal days/period = .641 min per  
 animal X 9,071 animal days/yr = 5,780 min/yr ÷ 894,708 min/yr = .646% of  
 total X 1,047,162 min/yr = 6,765 min/yr adjusted time ÷ 9,017 animal days  
 per year = .750 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$.074/day  
 at 100%.

<sup>d</sup>Adjustment: \$.086 X 85% = \$.073.

<sup>e</sup>Feed: 5,000 lb. layer feed purchased in 1975 ÷ 15,182 animal days/yr = .329  
 lb./day consumed X \$.094/lb. feed cost = \$.031/day.

<sup>f</sup>Maintenance, adult chickens: 15,182 animal days for 1975. 2,080 animal days  
 for the survey period of Dec. 1975 and Jan. 1976. Actual time recorded  
 for the above period = 4,184 min ÷ 2,080 animal days/period = 2.012  
 min/animal X 15,182 animal days/yr = 30,546 min/yr ÷ 894,708 min/yr =  
 3.414% of total X 1,047,162 min/yr = 35,750 min/yr adjusted time ÷  
 15,182 animal days/yr = 2.355 min/animal/day adjusted X \$5.94/hr (\$.099  
 per min) = \$.233/day at 100%.

<sup>g</sup>Adjustment: \$.270 X 85% = \$.230.



Table 1-9

Factors used in establishing per diem charges for ducks and geese

	100%	185%
Feed <sup>a</sup>	\$ .107	.107
Maintenance <sup>b</sup>	.276	.276
Adjustment	<u>.000</u>	<u>.326<sup>c</sup></u>
	\$ .383	.709

<sup>a</sup>Feed: 65 lb. feed consumed ÷ 57 animal days = 1.140 lb./day consumed (figures from 1974 per diems) X \$.094/lb. feed cost = \$.107/day.

<sup>b</sup>Maintenance: 203 animal days in 1975. 85 animal days for survey period of Dec. 1975 and Jan. 1976. Actual time recorded for the above period = 203 min ÷ 85 animal days/period = 2.388 min/animal X 203 animal days/yr = 485 min/yr ÷ 894,708 min/yr = .054% of total X 1,047,162 min/yr = 565 min/yr adjusted time ÷ 203 animal days/yr = 2.783 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$.276/day at 100%.

<sup>c</sup>Adjustment: \$.383 X 85% = \$.326.

Table 1-10

Factors used in establishing per diem charges for felines (cats)

	100%	185%
Feed <sup>a</sup>	\$ .126	.126
Litter <sup>b</sup>	.034	.034
Maintenance <sup>c</sup>	.697	.697
Adjustment	<u>.000</u>	<u>.728<sup>d</sup></u>
	\$ .857	1.585

<sup>a</sup>Feed: Dry cat chow: \$3.81/10 lb. = \$.381/lb.  
 Dry cat chow: \$7.00/20 lb. = \$.350/lb.  
 Canned food: \$.27/lb. can = \$.270/lb.

1,000 lb. cat chow used (10 lb. sacks) X \$.381/lb. = \$381.00.

2,420 lb. cat chow used (20 lb. sacks) X \$.350/lb. = \$847.00.

616 lb. canned cat food used X \$.238/lb. = \$174.33.

4,036 lb. \$1,402.42

\$1,402.42 purchase cost ÷ 4,036 lb. purchased in 1975 = \$.347/lb. average  
 cost of feed. 4,036 lb. purchased ÷ 11,142 animal days in 1975 = .362  
 lb./day consumed X \$.347/lb. = \$.126/day.

<sup>b</sup>Litter: 7,000 lb. litter purchased in 1975 ÷ 11,142 animal days/yr = .623  
 lb./day used X \$.054/lb. = \$.034/day.

<sup>c</sup>Maintenance: Average cost calculated to simplify administrative handling of  
 feline per diem rates.

4,811 inside, campus animal days for 1975 minus 306 days under  
 investigator care = 4,505 animal days cared for in 1975. 811 animal days  
 for the survey period of Dec. 1975 and Jan. 1976. Actual time recorded  
 for above period = 4,474 min ÷ 811 animal days/period = 5.517 min/animal  
 X 4,505 animal days cared for/yr = 24,854 min/yr ÷ 894,708 min/yr = 2.778%  
 of total X 1,047,162 min/yr = 29,090 min/yr adjusted time ÷ 4,505 animal  
 days/yr = 6.457 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$.639/day  
 at 100%.

6,637 inside and outside, ARF animal days for 1975. Time requirements as  
 listed on 1974 per diems = 6.352 min/day X 6,637 animal days/yr = 42,158  
 min/yr ÷ 894,708 min/yr = 4.712% of total X 1,047,162 min/yr = 49,342  
 min/yr adjusted time ÷ 6,637 animal days/yr = 7.434 min/animal/day  
 adjusted X \$5.94/hr (\$.099/min) = \$.736/day at 100%.

11,142 animal days for 1975 (average, all areas). 24,854 min/yr for  
 inside, campus + 42,158 min/yr for inside and outside, ARF = 67,012 min/yr  
 total ÷ 894,708 min/yr = 7.490% of total X 1,047,162 min/yr = 78,432  
 min/yr adjusted time ÷ 11,142 animal days/yr = 7.039 min/animal/day  
 adjusted X \$5.94/hr (\$.099/min) = \$.697/day at 100%.

<sup>d</sup>Adjustment: \$.857 X 85% = \$.728.

Table 1-11

Factors used in establishing per diem charges for frogs

	100%	185%
Feed <sup>a</sup>	\$ .000	.000
Maintenance <sup>b</sup>	.105	.105
Adjustment	<u>.000</u>	<u>.089<sup>c</sup></u>
	\$ .105	.194

<sup>a</sup>Feed: Any feed requested by investigator will be charged for on monthly invoices. Feed costs will include all charges incurred in purchasing it.

<sup>b</sup>Maintenance: 345 animal days in 1975. 509 animal days for the survey period of Nov., Dec. 1975 and Jan. 1976. Actual time recorded for the above period = 465 min ÷ 509 animal days/period = .914 min/animal X 345 animal days/yr = 315 min/yr ÷ 894,708 min/yr = .035% of total X 1,047,162 min/yr = 367 min/yr adjusted time ÷ 345 animal days/yr = 1.064 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$.105/day at 100%.

<sup>c</sup>Adjustment: \$.105 X 85% = \$.089.

Table 1-12

Factors used in establishing per diem charges for gerbils

	100%	185%
Feed <sup>a</sup>	\$ .004	.004
Litter <sup>b</sup>	.005	.005
Maintenance <sup>c</sup>	.103	.103
Adjustment	<u>.000</u>	<u>.095</u> <sup>d</sup>
	\$ .112	.207

<sup>a</sup>Feed: .025 lb. Lab Chow/day (based on average consumption figures from AALAS) consumed X \$.171/lb. feed cost = \$.004/day.

<sup>b</sup>Litter: .060 lb. litter/day (based on calculations for microtus usage) used X \$.081/lb. litter cost = \$.005/day.

<sup>c</sup>Maintenance: 50 animal days for 1975. 12 animal days for the survey period of April, 1975. Actual time recorded for the above period = 10 min ÷ 12 animal days/period = .833 min/animal X 50 animal days/yr = 42 min/yr ÷ 894,708 min/yr = .005% of total X 1,047,162 min/yr = 52 min/yr adjusted time ÷ 50 animal days/yr = 1.040 min/animal/day adjusted X \$5.94/hr (\$.099 /min) = \$.103/day at 100%.

<sup>d</sup>Adjustment: \$.112 X 85% = \$.095.

Table 1-13

Factors used in establishing per diem charges for guinea pigs

	100%	185%
Feed <sup>a</sup>	\$ .023	.023
Supplemental feeding <sup>b</sup>	.006	.006
Maintenance <sup>c</sup>	.488	.488
Adjustment	<u>.000</u>	<u>.439<sup>d</sup></u>
	\$ .517	.956

<sup>a</sup>Feed: 900 lb. Guinea Pig Chow purchased ÷ 5,650 animal days = .159 lb./day consumed X \$.144/lb. feed cost = \$.023/day.

<sup>b</sup>Supplemental feeding: 1 tablet (250 mg) ascorbic acid/water bottle daily X \$.006/tablet = \$.006/day.

<sup>c</sup>Maintenance: 5,650 animal days for 1975. 571 animal days for the survey period of Dec. 1975 and Jan. 1976. Actual time recorded for the above period = 2,406 min ÷ 571 animal days/period = 4.214 min/animal X 5,650 animal days/yr = 23,809 min/yr ÷ 894,708 min/yr = 2.661% of total X 1,047,162 min/yr = 27,865 min/yr adjusted time ÷ 5,650 animal days/yr = 4.932 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$.488/day at 100%.

<sup>d</sup>Adjustment: \$.517 X 85% = \$.439.

Table 1-14

Factors used in establishing per diem charges for hamsters

	100%	185%
Feed <sup>a</sup>	\$ .005	.005
Litter <sup>b</sup>	.005	.005
Maintenance <sup>c</sup>	.126	.126
Adjustment	<u>.000</u>	<u>.116<sup>d</sup></u>
	\$ .136	.252

<sup>a</sup>Feed: .027 lb. Lab Chow/day (based on average consumption figures for Purina and AALAS) consumed X \$.171/lb. feed cost = \$.005/day.

<sup>b</sup>Litter: .060 lb. litter/day (based on calculations for microtus usage) used X \$.081/lb. litter cost = \$.005/day.

<sup>c</sup>Maintenance: 288 animal days for 1975. 166 animal days for the survey period of April, 1975. Actual time recorded for the above period = 182 min ÷ 166 animal days/period = 1.096 min/animal X 288 animal days/yr = 316 min/yr ÷ 894,708 min/yr = .035% of total X 1,047,162 min/yr = 367 min/yr adjusted time ÷ 288 animal days/yr = 1.274 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$.126/day at 100%.

<sup>d</sup>Adjustment: \$.136 X 85% = \$.116.

Table 1-15

Factors used in establishing per diem charges for horses

	Inside		Outside	
	100%	185%	100%	185%
Alfalfa <sup>a</sup>	\$ .186	.136	.186	.186
Prairie hay <sup>b</sup>	.214	.214	.214	.214
Brome <sup>c</sup>	.017	.017	.017	.017
Oats <sup>d</sup>	.034	.034	.034	.034
Salt & TM blocks <sup>e</sup>	.001	.001	.001	.001
Straw <sup>f</sup>	.381	.381	.000	.000
Dumpster <sup>g</sup>	.407	.407	.000	.000
Lot maintenance <sup>h</sup>	.000	.000	.036	.036
Maintenance	1.487 <sup>i</sup>	1.487 <sup>i</sup>	.718 <sup>k</sup>	.718 <sup>k</sup>
Adjustment	<u>.000</u>	<u>2.318<sup>j</sup></u>	<u>.000</u>	<u>1.025<sup>l</sup></u>
	\$ 2.727	5.045	1.206	2.231

<sup>a</sup>Alfalfa: 2,285 animal days in 1975 X 4.0 lb./day that should be fed for a balanced ration = 9,140 lb./yr ÷ 241,165 lb. that should be fed (all species) = 3.790% of total X 329,690 lb. purchased in 1975 = 12,495 lb. fed/yr adjusted ÷ 2,285 animal days = 5.468 lb./day fed X \$.034/lb. = \$.186/day.

<sup>b</sup>Prairie hay: 2,285 animal days in 1975 X 8.5 lb. that should be fed for a balanced ration = 19,423 lb./yr ÷ 293,753 lb. that should be fed (all species) = 6.612% of total X 308,303 lb. purchased in 1975 = 20,385 lb. fed/yr adjusted ÷ 2,285 animal days = 8.921 lb./day fed X \$.024/lb. = \$.214/day.

<sup>c</sup>Brome: 2,285 animal days in 1975 X 8.5 lb./day that should be fed for a balanced ration = 19,423 lb./yr ÷ 79,228 lb. that should be fed (all species) = 24.515% of total X 6,460 lb. purchased in 1975 = 1,584 lb. fed/yr adjusted ÷ 2,285 animal days = .693 lb./day fed X \$.025/lb. = \$.017/day.

<sup>d</sup>Oats: 2,285 animal days in 1975 ÷ 10,259 animal days receiving oats = 22.273% of total X 4,800 lb. purchased in 1975 = 1,069 lb. fed/yr ÷ 2,285 animal days = .468 lb./day X \$.072/lb. = \$.034/day.

<sup>e</sup>Salt & TM blocks: 2,285 animal days in 1975 ÷ 73,760 animal days receiving salt & TM blocks = 3.098% of total X 1,600 lb. purchased in 1975 = 50 lb. fed/yr ÷ 2,285 animal days = .022 lb./day X \$.031/lb. = \$.001/day.

<sup>f</sup>Straw: 198 animal days in 1975 X 15.779 lb./day (from 1974 per diems) = 3,124 lb./yr that should be used ÷ 52,536 lb. that should be used (all species) = 5.935% of total X 45,393 lb. purchased in 1975 = 2,694 lb. used/yr ÷ 198 animal days/yr = 13.606 lb./day X \$.028/lb. = \$.381/day.

Table 1-15

## Horses, continued

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- <sup>g</sup>Dumpster: (Based on 1974 per diem figures). \$1.90 each/day ÷ 1.515 stalls/dumpster = \$1.254/stall ÷ 3.08 day cleaning interval = \$.407/day.
- <sup>h</sup>Lot maintenance: \$240.96 Physical Plant cost for cleaning 11 pens = \$21.905/pen ÷ 365 days = \$.060/day ÷ 2.314 average animals/day = \$.026/day ÷ \$.071/min = .366 min/day X \$.099/min = \$.036/day.
- <sup>i</sup>Maintenance, inside: 198 animal days for 1975. Time requirements as listed on 1974 per diems = 12.840 min/day X 198 animal days/yr = 2,542 min/yr ÷ 894,708 min/yr = .284% of total X 1,047,162 min/yr = 2,974 min/yr adjusted time ÷ 198 animal days/yr = 15.020 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$1.487/day at 100%.
- <sup>j</sup>Adjustment: \$2.727 X 85% = \$2.318.
- <sup>k</sup>Maintenance, outside: 2,087 animal days for 1975. Time requirements as listed on 1974 per diems = 6.200 min/day X 2,087 animal days/yr = 12,939 min/yr ÷ 894,708 min/yr = 1.446% of total X 1,047,162 min/yr = 15,142 min/yr adjusted time ÷ 2,087 animal days/yr = 7.255 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$.718/day at 100%.
- <sup>l</sup>Adjustment: \$1.206 X 85% = \$1.025.



Table 1-16

Factors used in establishing per diem charges for  
horses housed at Research Farm<sup>a</sup>

	100%	185%
Fixed costs <sup>b</sup>	\$ .351	.351
Salt & TM blocks <sup>c</sup>	.001	.001
Maintenance <sup>d</sup>	.452	.452
Adjustment	<u>.000</u>	<u>.683<sup>e</sup></u>
	\$ .804	1.487

<sup>a</sup>Research Farm per diem is based on a 214 day grazing period (April-October) with no supplemental feed. If feed is required, charges will be based on ARF's dry lot per diem schedules.

<sup>b</sup>Fixed costs: 1975 expenses of \$328.47 for electricity, \$148.20 for telephone, \$98.96 for propane, \$36.00 for tank rental and \$1,361.32 for fertilizer = \$1,972.95 ÷ 214 day grazing period = \$9.219/day. 5,614 total animal days at Research Farm in 1975 ÷ 214 day period = 26.234 average animals/day. \$9.219/day ÷ 26.234 animals/day = \$.351/day.

<sup>c</sup>Salt & TM blocks: 1,089 animal days for 1975 ÷ 73,760 animal days receiving salt & TM blocks = 1.476% of total X 1,600 lb. purchased in 1975 = 24 lb. fed/yr ÷ 1,089 animal days/yr = .022 lb./day X \$.031/lb. = \$.001/day.

<sup>d</sup>Maintenance: 1,089 animal days for 1975 ÷ 5,614 total animal days at Research Farm (all species) = 19.398% of total X (maintenance requirements based on 60 min/day by resident at Research Farm X 365 days/yr =) 21,900 min/yr X 19.398% = 4,248 min/yr ÷ 894,708 min/yr = .475% of total X 1,047,162 min/yr = 4,974 min/yr adjusted time ÷ 1,089 animal days/yr = 4.567 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$.452/day at 100%.

<sup>e</sup>Adjustment: \$.804 X 85% = \$.683.

Table 1-17

Factors used in establishing per diem charges for mice

	100%	185%
Feed <sup>a</sup>	\$ .002	.002
Litter <sup>b</sup>	.004	.004
Maintenance <sup>c</sup>	.018	.018
Adjustment	<u>.000</u>	<u>.020<sup>d</sup></u>
	\$ .024	.044

<sup>a</sup>Feed: 4,550 lb. Lab Chow purchased in 1975 ÷ 330,526 animal days = .014 lb./day consumed X \$.171/lb. feed cost = \$.002/day.

<sup>b</sup>Litter: 14,842 lb. litter used for mice in 1975 ÷ 330,526 animal days = .045 lb./day used X \$.081/lb. litter cost = \$.004/day.

<sup>c</sup>Maintenance: 330,526 animal days in 1975. 73,944 animal days for the survey period of Dec. 1975 and Jan. 1976. Actual time recorded for the above period = 11,370 min ÷ 73,944 animal days/period = .154 min/animal X 330,526 animal days/yr = 50,901 min/yr ÷ 894,708 min/yr = 5.689% of total X 1,047,162 min/yr = 59,573 min/yr adjusted time ÷ 330,526 animal days/yr = .180 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$.018/day at 100%.

<sup>d</sup>Adjustment: \$.024 X 85% = \$.020.

Table 1-18

Factors used in establishing per diem charges for microtus

	100%	185%
Feed <sup>a</sup>	\$ .003	.003
Litter <sup>b</sup>	.006	.006
Maintenance <sup>c</sup>	.040	.040
Adjustment	<u>.000</u>	<u>.042<sup>d</sup></u>
	\$ .049	.091

<sup>a</sup>Feed: 375 lb. Lab Chow purchased ÷ 23,562 animal days = .061 lb./day consumed X \$.171/lb. feed cost = \$.003/day.

<sup>b</sup>Litter: 350 lb. wood shavings used X \$.067/lb. = \$23.45  
 1,408 lb. litter used X \$.081/lb. = \$114.05  
 \$137.50 litter cost ÷ 1,758 lb. used in 1975 = \$.078/lb. average cost.  
 1,758 lb. ÷ 23,562 animal days/yr = .075 lb./day X \$.078/lb. = \$.006/day.

<sup>c</sup>Maintenance: 23,562 animal days in 1975. 19,285 animal days for the survey period of Oct., Nov., Dec., 1975 and Jan. 1976. Actual time recorded for the above period = 6,737 min ÷ 19,285 animal days/ period = .349 min/animal X 23,562 animal days/yr = 8,223 min/yr ÷ 894,708 min/yr = .919% of total X 1,047,162 min/yr = 9,623 min/yr adjusted time ÷ 23,562 animal days/yr = .408 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$.040/day at 100%.

<sup>d</sup>Adjustment: \$.049 X 85% = \$.042.

Table 1-19

Factors used in determining per diem charges for parakeets

	100%	185%
Feed <sup>a</sup>	\$ .017	.017
Maintenance <sup>b</sup>	.142	.142
Adjustment	<u>.000</u>	<u>.135<sup>c</sup></u>
	\$ .159	.294

<sup>a</sup>Feed: 15 lb. parakeet feed purchased in 1975 ÷ 525 animal days/yr = .029 lb. used/day X \$.590/lb. = \$.017/day.

<sup>b</sup>Maintenance: 525 animal days for 1975. 40 animal days for the survey period of April, 1975. Actual time recorded for the above period = 49 min ÷ 40 animal days/period = 1.225 min/animal X 525 animal days/yr = 643 min/yr ÷ 894,708 min/yr = .072% of total X 1,047,162 min/yr = 754 min/yr adjusted time ÷ 525 animal days/yr = 1.436 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$.142/day at 100%.

<sup>c</sup>Adjustment: \$.159 X 85% = \$.135.

Table 1-20

Factors used in determining per diem charges for pigeons

	Large Gang Cage		Metal Cage Unit	
	100%	185%	100%	185%
Feed <sup>a</sup>	\$ .009	.009	.009	.009
Litter <sup>b</sup>	.001	.001	.000	.000
Roll paper <sup>c</sup>	.000	.000	.006	.006
Maintenance	.026 <sup>d</sup>	.026 <sup>d</sup>	.246 <sup>f</sup>	.246 <sup>f</sup>
Adjustment	.000	.031 <sup>e</sup>	.000	.222 <sup>g</sup>
	\$ .036	.067	.261	.483

<sup>a</sup>Feed: 900 lb. pigeon pellets purchased ÷ 13,103 animal days = .069 lb./day consumed X \$.128/lb. = \$.009/day.

<sup>b</sup>Litter: 200 lb. litter used for pigeons ÷ 12,985 animal days = .015 lb./day used X \$.054/lb. = \$.001/day.

<sup>c</sup>Roll paper: Current price is \$22.00/cwt ÷ 100 = \$.222/lb. 6½ foot usage/day (measured) for 10 birds = 130 grams/day (weighed) ÷ 454 grams/lb. = .286 lb./day ÷ 10 birds = .029 lb./bird/day X \$.222/lb. = \$.006/day.

<sup>d</sup>Maintenance, large gang cages: 12,985 animal days for 1975. 1,476 animal days for the survey period of Dec., 1975 and Jan., 1976. Actual time recorded for the above period = 333 min ÷ 1,476 animal days/period = .226 min/animal X 12,985 animal days/yr = 2,935 min/yr ÷ 894,708 min/yr = .328% of total X 1,047,162 min/yr = 3,435 min/yr adjusted time ÷ 12,985 animal days/yr = .265 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$.026/day at 100%.

<sup>e</sup>Adjustment: \$.036 X 85% = \$.031.

<sup>f</sup>Maintenance, metal cage unit: 118 animal days for 1975. 118 animal days for the survey period of April and May, 1975 (last period pigeons were housed in this type cages, through this per diem period). Actual time recorded for the above period = 251 min ÷ 118 animal days/period = 2.127 min/animal X 118 animal days/yr = 251 min/yr ÷ 894,708 min/yr = .028% of total X 1,047,162 min/yr = 293 min/yr adjusted time ÷ 118 animal days/yr = 2.483 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$.246/day at 100%.

<sup>g</sup>Adjustment: \$.261 X 85% = \$.222.

Table 1-21

Factors used in determining per diem charges for ponies

	Inside-Campus		Inside-Hill		Outside	
	100%	185%	100%	185%	100%	185%
Alfalfa <sup>a</sup>	\$ .163	.163	.163	.163	.163	.163
Prairie hay <sup>b</sup>	.189	.189	.189	.189	.189	.189
Brome <sup>c</sup>	.015	.015	.015	.015	.015	.015
Oats <sup>d</sup>	.034	.034	.034	.034	.034	.034
Salt & TM blocks <sup>e</sup>	.001	.001	.001	.001	.001	.001
Straw <sup>f</sup>	.000	.000	.191	.191	.000	.000
Dumpster <sup>g</sup>	.000	.000	.204	.204	.000	.000
Litter <sup>h</sup>	.211	.211	.000	.000	.000	.000
Lot maintenance <sup>i</sup>	.000	.000	.000	.000	.036	.036
Maintenance	2.617 <sup>j</sup>	2.617 <sup>j</sup>	.924 <sup>l</sup>	.924 <sup>l</sup>	.718 <sup>n</sup>	.718 <sup>n</sup>
Adjustment	<u>.000</u>	<u>2.746<sup>k</sup></u>	<u>.000</u>	<u>1.463<sup>m</sup></u>	<u>.000</u>	<u>.983<sup>o</sup></u>
	\$ 3.230	5.976	1.721	3.184	1.156	2.139

<sup>a</sup>Alfalfa: 7,974 animal days in 1975 X 3.5 lb./day that should be fed for a balanced ration = 27,909 lb./yr ÷ 241,165 lb. that should be fed (all species) = 11.573% of total X 329,690 lb. purchased in 1975 = 38,155 lb. fed/yr adjusted ÷ 7,974 animal days = 4.785 lb./day fed X \$.034/lb. = \$.163/day.

<sup>b</sup>Prairie hay: 7,974 animal days in 1975 X 7.5 lb./day that should be fed for a balanced ration = 59,805 lb./yr ÷ 293,753 lb. that should be fed (all species) = 20.359% of total X 308,303 lb. purchased in 1975 = 62,767 lb. fed/yr adjusted ÷ 7,974 animal days = 7.871 lb./day fed X \$.024/lb. = \$.189/day.

<sup>c</sup>Brome: 7,974 animal days in 1975 X 7.5 lb./day that should be fed for a balanced ration = 59,805 lb./yr ÷ 79,228 lb. that should be fed (all species) = 75.485% of total X 6,460 lb. purchased in 1975 = 4,876 lb. fed/yr adjusted ÷ 7,974 animal days = .611 lb./day fed X \$.025/lb. = \$.015/day.

<sup>d</sup>Oats: 7,974 animal days in 1975 ÷ 10,259 animal days receiving oats = 77.727% of total X 4,800 lb. purchased in 1975 = 3,731 lb. fed/yr ÷ 7,974 animal days = .468 lb./day X \$.072/lb. = \$.034/day.

<sup>e</sup>Salt & TM blocks: 7,974 animal days in 1975 ÷ 73,760 animal days receiving salt & TM blocks = 10.811% of total X 1,600 lb. purchased in 1975 = 173 lb. fed/yr ÷ 7,974 animal days = .022 lb./day X \$.031/lb. = \$.001/day.

Table 1-21

## Ponies, continued

- <sup>f</sup>Straw: 733 animal days in 1975 X 7.890 lb./day (from 1974 per diems) = 5,783 lb./yr that should be used ÷ 52,636 lb. that should be used (all species) = 10.987% of total X 45,393 lb. purchased in 1975 = 4,987 lb. used/yr ÷ 733 animal days/yr = 6.804 lb./day X \$.028/lb. = \$.191/day.
- <sup>g</sup>Dumpster: (Based on 1974 per diems). \$1.90 each/day ÷ 1.515 stalls/dumpster = \$1.254/stall ÷ 3.08 day cleaning interval = \$.407/day ÷ 2 ponies/stall maximum = \$.204/day.
- <sup>h</sup>Litter: 665 animal days in 1975 X 3.155 lb./day (from 1974 per diems) = 2,098 lb./yr ÷ 2,500 lb./yr shavings purchased (all species) = 83.920% of total X 2,500 lb. purchased in 1975 = 2,098 lb. used/yr ÷ 665 animal days/yr = 3.155 lb./day X \$.067/lb. = \$.211/day.
- <sup>i</sup>Lot maintenance: \$240.96 Physical Plant cost for cleaning 11 pens = \$21.90/pen ÷ 365 days = \$.060/day ÷ 2.314 average animals/day/pen = \$.026/day ÷ \$.071/min = .366 min/day X \$.099/min = \$.036/day.
- <sup>j</sup>Maintenance, inside, campus: 665 animal days in 1975. 68 animal days for the survey period of Dec., 1975 and Jan., 1976. Actual time recorded for the above period = 1,536 min ÷ 68 animal days/period = 22.588 min/animal X 665 animal days/yr = 15,021 min/yr ÷ 894,703 min/yr = 1.679% of total X 1,047,162 min/yr = 17,582 min/yr adjusted time ÷ 665 animal days/yr = 26.439 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$2.617/day at 100%.
- <sup>k</sup>Adjustment: \$3.230 X 85% = \$2.746.
- <sup>l</sup>Maintenance, inside, hill: 733 animal days for 1975. Time requirements as listed on 1974 per diems = 7.970 min/day X 733 animal days/yr = 5,842 min/yr ÷ 894,708 min/yr = .653% of total X 1,047,162 min/yr = 6,838 min/yr adjusted time ÷ 733 animal days/yr = 9.329 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$.924/day at 100%.
- <sup>m</sup>Adjustment: \$1.721 X 85% = \$1.463.
- <sup>n</sup>Maintenance, outside: 6,576 animal days for 1975. Time requirements as listed on 1974 per diems = 6.200 min/day X 6,576 animal days/yr = 40,771 min/yr ÷ 894,708 min/yr = 4.557% of total X 1,047,162 min/yr = 47,719 min/yr adjusted time ÷ 6,576 animal days/yr = 7.257 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$.718/day at 100%.
- <sup>o</sup>Adjustment: \$1.156 X 85% = \$.983.

Table 1-22

Factors used in establishing per diem charges for  
ponies housed at Research Farm<sup>a</sup>

	100%	185%
Fixed costs <sup>b</sup>	\$ .351	.351
Salt & TM blocks <sup>c</sup>	.001	.001
Maintenance <sup>d</sup>	.453	.453
Adjustment	<u>.000</u>	<u>.684<sup>e</sup></u>
	\$ .805	1.489

<sup>a</sup>Research Farm per diem is based on a 214 day grazing period (April-October) with no supplemental feed. If feed is required, charges will be based on ARF's dry lot per diem schedules.

<sup>b</sup>Fixed costs: 1975 expenses of \$328.47 for electricity, \$148.20 for telephone, \$98.96 for propane, \$36.00 for tank rental and \$1,361.32 for fertilizer = \$1,972.95 ÷ 214 day grazing period = \$9.219 per day. 5,614 total animal days at Research Farm in 1975 ÷ 214 day period = 26.234 average animals per day. \$9.219/day ÷ 26.234 animals/day = \$.351/day.

<sup>c</sup>Salt & TM blocks: 607 animal days for 1975 ÷ 73,760 animal days receiving salt & TM blocks = .823% of total X 1,600 lb. purchased in 1975 = 13 lb. fed/yr ÷ 607 animal days/yr = .021 lb./day X \$.031/lb. = \$.001/day.

<sup>d</sup>Maintenance: 607 animal days for 1975 ÷ 5,614 total animal days at Research Farm = 10.812% of total X (maintenance requirements based on 60 min/day by resident of Research Farm X 365 days/yr =) 21,900 min/yr = 2,368 min/yr ÷ 894,708 min/yr = .265% of total X 1,047,162 min/yr = 2,775 min/yr adjusted time ÷ 607 animal days/yr = 4.572 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$.453/day at 100%.

<sup>e</sup>Adjustment: \$.805 X 85% = \$.684.



Table 1-23

Factors used in establishing per diem charges for quail

	100%	185%
Feed <sup>a</sup>	\$ .005	.005
Maintenance <sup>b</sup>	.041	.041
Adjustment	<u>.000</u>	<u>.039<sup>c</sup></u>
	\$ .046	.085

<sup>a</sup>Feed: 1,550 lb. feed purchased in 1975 ÷ 30,019 animal days/yr = .052 lb./day consumed X \$.095/lb. feed cost = \$.005/day.

<sup>b</sup>Maintenance: 30,019 animal days for 1975. 8,630 animal days for the survey period of Dec., 1975, Jan. and Feb., 1976. Actual time recorded for the above period = 3,043 min ÷ 8,630 animal days/period = .353 min/animal X 30,019 animal days/yr = 10,597 min/yr ÷ 894,708 min/yr = 1.184% of total X 1,047,162 min/yr = 12,398 min/yr adjusted time ÷ 30,019 animal days/yr = .413 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$.041/day at 100%.

<sup>c</sup>Adjustment: \$.046 X 85% = \$.039.

Table 1-24

Factors used in establishing per diem charges for rabbits

	100%	185%
Feed <sup>a</sup>	\$ .026	.026
Maintenance <sup>b</sup>	.220	.220
Adjustment	<u>.000</u>	<u>.209<sup>c</sup></u>
	\$ .246	.455

<sup>a</sup>Feed: 12,550 lb. rabbit chow purchased in 1975 ÷ 40,604 animal days/yr = .309 lb./day consumed X \$.085/lb. feed cost = \$.026/day.

<sup>b</sup>Maintenance: 40,604 animal days for 1975. 6,046 animal days for the survey period of Dec., 1975 and Jan., 1976. Actual time recorded for the above period = 11,494 min ÷ 6,046 animal days/period = 1.901 min/animal X 40,604 animal days/yr = 77,188 min/yr ÷ 894,708 min/yr = 8.627% of total X 1,047,162 min/yr = 90,339 min/yr adjusted time ÷ 40,604 animal days/yr = 2.225 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$.220/day at 100%.

<sup>c</sup>Adjustment: \$.246 X 85% = \$.209.

Table 1-25

Factors used in establishing per diem charges for rats

	Hanging Cage Racks		Polycarbonate "Shoebox" Cages	
	100%	185%	100%	185%
Feed <sup>a</sup>	\$ .006	.006	.006	.006
Litter <sup>b</sup>	.000	.000	.009	.009
Maintenance	.068 <sup>c</sup>	.068 <sup>c</sup>	.369 <sup>e</sup>	.369 <sup>e</sup>
Adjustment	<u>.000</u>	<u>.063<sup>d</sup></u>	<u>.000</u>	<u>.326<sup>f</sup></u>
	\$ .074	.137	.384	.710

<sup>a</sup>Feed: 825 lb. lab chow purchased in 1975 for rats. 37,166 animal days for 1975 - 14,563 animal days under investigator feeding = 22,603 animal days on lab chow. 825 lb. feed purchased ÷ 22,603 animal days/yr = .036 lb./day consumed X \$.171/lb. feed cost = \$.006/day.

<sup>b</sup>Litter: 50 lb. wood shavings used X \$.067/lb. = \$3.35.  
100 lb. litter used X \$.081/lb. = \$8.10.  
\$11.45 litter cost ÷ 150 lb. litter used = \$.076/lb. average litter cost.  
150 lb. ÷ 1,327 animal days using litter/yr = .113 lb./day X \$.076/lb. = \$.009/day.

<sup>c</sup>Maintenance, hanging cage racks: 35,839 animal days for 1975. 8,871 animal days for the survey period of Dec., 1975 and Jan., 1976. Actual time recorded for the above period = 5,178 min ÷ 8,871 animal days/period = .584 min/animal X 35,839 animal days/yr = 20,930 min/yr ÷ 894,708 min/yr = 2.339% of total X 1,047,162 min/yr = 24,493 min/yr adjusted time ÷ 35,839 animal days/yr = .683 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$.068/day at 100%.

<sup>d</sup>Adjustment: \$.074 X 85% = \$.063.

<sup>e</sup>Maintenance, polycarbonate "shoebox" cages: 1,327 animal days for 1975. 805 animal days for the survey period of Dec., 1975 and Jan., 1976. Actual time recorded for the above period = 2,566 min ÷ 805 animal days/period = 3.188 min/animal X 1,327 animal days/yr = 4,230 min/yr ÷ 894,708 min/yr = .473% of total X 1,047,162 min/yr = 4,953 min/yr adjusted time ÷ 1,327 animal days/yr = 3.732 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$.369/day at 100%.

<sup>f</sup>Adjustment: \$.384 X 85% = \$.326.

Table 1-26

Factors used in establishing per diem charges for  
sheep and goats from 60 to 100 days of age

	Inside		Outside	
	100%	185%	100%	185%
Grain ration <sup>a</sup>	\$ .073	.073	.073	.073
Alfalfa <sup>b</sup>	.070	.070	.070	.070
Straw <sup>c</sup>	.064	.064	.000	.000
Dumpster <sup>d</sup>	.068	.068	.000	.000
Lot maintenance <sup>e</sup>	.000	.000	.014	.014
Maintenance	.321 <sup>f</sup>	.321 <sup>f</sup>	.066 <sup>h</sup>	.066 <sup>h</sup>
Adjustment	<u>.000</u>	<u>.507<sup>g</sup></u>	<u>.000</u>	<u>.190<sup>i</sup></u>
	\$ .596	1.103	.223	.413

<sup>a</sup>Grain ration: 1,605 animal days in 1975 X 2.25 lb./day that should be fed for a balanced ration = 3,611 lb./yr ÷ 121,710 lb. that should be fed (all species) = 2.967% of total X 77,754 lb. purchased in 1975 = 2,307 lb. fed/yr adjusted ÷ 1,605 animal days = 1.437 lb./day fed X \$.051/lb. = \$.073/day.

<sup>b</sup>Alfalfa: 1,605 animal days in 1975 X 1.5 lb./day that should be fed for a balanced ration = 2,408 lb./yr ÷ 241,165 lb. that should be fed (all species) = .998% of total X 329,690 lb. purchased in 1975 = 3,290 lb. fed/yr adjusted ÷ 1,605 animal days = 2.050 lb./day fed X \$.034/lb. = \$.070/day.

<sup>c</sup>Straw: 808 animal days in 1975 X 2.630 lb./day (from 1974 per diems) = 2,125 lb./yr that should be used ÷ 52,636 lb. that should be used (all species) = 4.037% of total X 45,393 lb. purchased in 1975 = 1,833 lb. used/yr ÷ 808 animal days/yr = 2.269 lb./day X \$.028/lb. = \$.064/day.

<sup>d</sup>Dumpster: (Based on 1974 per diems). \$1.90 each/day ÷ 1.515 stalls/dumpster = \$1.254/stall ÷ 3.08 day cleaning interval = \$.407/day ÷ six sheep/stall maximum = \$.068/day.

<sup>e</sup>Lot maintenance: \$204.96 Physical Plant cost for cleaning 7 pens = \$34.423/pen ÷ 365 days = \$.094/pen/day ÷ 9.274 average animals/pen/day = \$.010/day ÷ \$.071/min = .141 min/day X \$.099/min = \$.014/day.

Table 1-26

Sheep and goats, 60 to 100 days of age, continued

<sup>f</sup>Maintenance, inside: 808 animal days for 1975. Time requirements as listed on 1974 per diems = 2.769 min/day X 808 animal days/yr = 2,237 min/yr + 894,708 min/yr = .250% of total X 1,047,162 min/yr = 2,618 min/yr adjusted time + 808 animal days/yr = 3.240 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$.321/day at 100%.

<sup>g</sup>Adjustment: \$.596 X 85% = \$.507.

<sup>h</sup>Maintenance, outside: 797 animal days for 1975. Time requirements as listed on 1974 per diems = .573 min/day X 797 animal days/yr = 457 min/yr + 894,708 min/yr = .051% of total X 1,047,162 min/yr = 534 min/yr adjusted time + 797 animal days/yr = .670 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$.066/day at 100%.

<sup>i</sup>Adjustment: \$.223 X 85% = \$.190.

Table 1-27

Factors used in establishing per diem charges for  
adult sheep and goats

	Inside		Outside	
	100%	185%	100%	185%
Grain ration <sup>a</sup>	\$ .090	.090	.090	.090
Alfalfa <sup>b</sup>	.093	.093	.093	.093
Salt & TM blocks <sup>c</sup>	.001	.001	.001	.001
Straw <sup>d</sup>	.064	.064	.000	.000
Dumpster <sup>e</sup>	.068	.068	.000	.000
Lot maintenance <sup>f</sup>	.000	.000	.014	.014
Maintenance	.473 <sup>g</sup>	.473 <sup>g</sup>	.066 <sup>i</sup>	.066 <sup>i</sup>
Adjustment	.000	.671 <sup>h</sup>	.000	.224 <sup>j</sup>
	\$ .789	1.460	.264	.488

<sup>a</sup>Grain ration: 42,945 animal days in 1975 X 2.75 lb./day that should be fed for a balanced ration = 118,099 lb./yr ÷ 121,710 lb. that should be fed (all species) = 97.033% of total X 77,754 lb. purchased in 1975 = 75,447 lb. fed/yr adjusted ÷ 42,945 animal days = 1.757 lb./day fed X \$.051/lb. = \$.090/day.

<sup>b</sup>Alfalfa: 42,945 animal days in 1975 X 2.0 lb./day that should be fed for a balanced ration = 85,890 lb./yr ÷ 241,165 lb. that should be fed (all species) = 35.615% of total X 329,690 lb. purchased in 1975 = 117,419 lb. fed/yr adjusted ÷ 42,945 animal days = 2.734 lb./day fed X \$.034/lb. = \$.093/day.

<sup>c</sup>Salt & TM blocks: 42,945 animal days in 1975 ÷ 73,760 animal days receiving salt & TM blocks = 58.223% of total X 1,600 lb. purchased in 1975 = 932 lb. fed/yr ÷ 42,945 animal days = .022 lb./day X \$.031/lb. = \$.001/day.

<sup>d</sup>Straw: 15,186 animal days in 1975 X 2.630 lb./day (from 1974 per diems) = 39,939 lb./yr that should be used ÷ 52,636 lb. that should be used (all species) = 75.878% of total X 45,393 lb. purchased in 1975 = 34,443 lb. used/yr ÷ 15,186 animal days/yr = 2.268 lb./day X \$.028/lb. = \$.064/day.

<sup>e</sup>Dumpster: (Based on 1974 per diem figures). \$1.90 each/day ÷ 1.515 stalls/dumpster = \$1.254/stall ÷ 3.08 day cleaning interval = \$.407/day ÷ six sheep/stall maximum = \$.068/day.

Table 1-27

## Sheep and goats, adult, continued

<sup>f</sup> Lot maintenance: \$240.96 Physical Plant cost for cleaning 7 pens = \$34.423/pen ÷ 365 days = \$.094/pen/day ÷ 9.274 average animals/pen/day = \$.010/day ÷ \$.071/min = .141 min/day X \$.099/min = \$.014/day.

<sup>g</sup> Maintenance, inside: 15,186 animal days in 1975 for inside, ARF + 1,726 animal days in 1975 for inside, campus = 16,912 total animal days for 1975. Time requirements for inside, ARF, as listed on 1974 per diems = 2.769 min/day X 15,186 animal days/yr = 42,050 min/yr inside, ARF. 122 animal days for the survey period of Dec., 1975 and Jan., 1976 inside, campus. Actual time recorded for the above period = 1,912 min ÷ 122 animal days/period = 15.672 min/animal X 1,726 animal days/yr = 27,050 min/yr inside, campus. 42,050 min/yr inside, ARF + 27,050 min/yr inside, campus = 69,100 min/yr inside ÷ 894,708 min/yr = 7.723% of total X 1,047,162 min/yr = 80,872 min/yr adjusted time ÷ 16,912 animal days/yr = 4.782 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$.473/day at 100%.

<sup>h</sup> Adjustment: \$.789 X 85% = \$.671.

<sup>i</sup> Maintenance, outside: 25,977 animal days for 1975. Time requirements as listed on 1974 per diems = .537 min/day X 25,977 animal days/yr = 14,896 min/yr ÷ 894,708 min/yr = 1.665% of total X 1,047,162 min/yr = 17,435 min/yr ÷ 25,977 animal days/yr = .671 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$.066/day at 100%.

<sup>j</sup> Adjustment: \$.264 X 85% = \$.224.

Table 1-28

Factors used in establishing per diem charges for  
swine weighing less than 75 pounds

	Inside		Outside	
	100%	185%	100%	185%
Feed <sup>a</sup>	\$ .176	.176	.176	.176
Maintenance	1.005 <sup>b</sup>	1.005 <sup>b</sup>	.428 <sup>d</sup>	.428 <sup>d</sup>
Adjustment	<u>.000</u>	<u>1.003<sup>c</sup></u>	<u>.000</u>	<u>.513<sup>e</sup></u>
	\$ 1.181	2.184	.604	1.117

<sup>a</sup>Feed: 809 animal days in 1975 X 2.5 lb./day that should be fed for a balanced ration = 2,023 lb./yr total feed - 800 lb. special feeds purchased = 1,223 lb./yr 14% finisher fed ÷ 11,300 lb. that should be fed (all species) = 10.823% of total X 10,600 lb. 14% finisher purchased in 1975 = 1,147 lb. fed/yr adjusted X \$.069/lb. = \$79.14 + (100 lb. special feed purchased X \$.113/lb. =) \$11.30 + (700 lb. special feed purchased X \$.075/lb. =) \$52.50 = \$142.94 total feed cost ÷ 1,947 lb. feed purchased in 1975 = \$.073/lb. average feed cost. 1,947 lb. feed ÷ 309 animal days/yr = 2.407 lb./day consumed X \$.073/lb. = \$.176/day.

<sup>b</sup>Maintenance, inside: 775 animal days for 1975. Time requirement as listed on 1974 per diems = 3.667 min/day X 775 animal days/yr = 6,717 min/yr ÷ 894,708 min/yr = .751% of total X 1,047,162 min/yr = 7,864 min/yr adjusted time ÷ 775 animal days/yr = 10.147 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$1.005/day at 100%.

<sup>c</sup>Adjustment: \$1.181 X 85% = \$1.003.

<sup>d</sup>Maintenance, outside: 34 animal days for 1975. Time requirement as listed on 1974 per diems = 3.667 min/day X 34 animal days/yr = 125 min/yr ÷ 894,708 min/yr = .014% of total X 1,047,162 min/yr = 147 min/yr adjusted time ÷ 34 animal days/yr = 4.324 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$.428/day at 100%.

<sup>e</sup>Adjustment: \$.604 X 85% = \$.513.



Table 1-29

Factors used in establishing per diem charges for adult swine

	Inside		Outside	
	100%	185%	100%	185%
Feed <sup>a</sup>	\$ .434	.434	.434	.434
Maintenance	1.507 <sup>b</sup>	1.507 <sup>b</sup>	.636 <sup>d</sup>	.636 <sup>d</sup>
Adjustment	.000	1.650 <sup>c</sup>	.000	.910 <sup>e</sup>
	\$ 1.941	3.591	1.070	1.980

<sup>a</sup>Feed: 1,390 animal days in 1975 X 6.7 lb./day that should be fed for a balanced ration = 9,313 lb./yr + 11,300 lb. that should be fed (all species) = 82.416% of total X 10,600 lb. of 14% finisher purchased in 1975 = 8,736 lb. fed/yr adjusted + 1,390 animal days/yr = 6.285 lb./day fed X \$.069/lb. = \$.434/day.

<sup>b</sup>Maintenance, inside: 1,222 animal days for 1975. Time requirement as listed on 1974 per diems = 13.0 min/day X 1,222 animal days/yr = 15,886 min/yr + 894,708 min/yr = 1.776% of total X 1,047,162 min/yr = 18,589 min/yr adjusted time + 1,222 animal days/yr = 15.219 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$1.507/day at 100%.

<sup>c</sup>Adjustment: \$1.941 X 85% = \$1.650.

<sup>d</sup>Maintenance, outside: 168 animal days for 1975. Time requirement as listed on 1974 per diems = 5.50 min/day X 168 animal days/yr = 924 min/yr + 898,708 min/yr = 1.03% of total X 1,047,162 min/yr = 1,079 min/yr adjusted time + 168 animal days/yr = 6.423 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$.636/day at 100%.

<sup>e</sup>Adjustment: \$1.070 X 85% = \$.910.

Table 1-30

Factors used in establishing per diem charges for lactating swine

	Inside	
	100%	185%
Feed <sup>a</sup>	\$ .761	.761
Maintenance <sup>b</sup>	1.851	1.851
Adjustment	<u>.000</u>	<u>2.220<sup>c</sup></u>
	\$ 2.612	4.832

<sup>a</sup>Feed: 65 animal days in 1975 X 11.75 lb./day that should be fed for a balanced ration = 764 lb./yr ÷ 11,300 lb. that should be fed (all species) = 6.761% of total X 10,600 lb. 14% finisher purchased in 1975 = 717 lb. fed/yr adjusted ÷ 65 animal days/yr = 11.031 lb. fed/day X \$.069/lb. = \$.761/day.

<sup>b</sup>Maintenance: 65 animal days for 1975. Time requirement with the use of farrowing stalls = 16.0 min/day X 65 animal days/yr = 1,040 min/yr + 894,708 min/yr = .116% of total X 1,047,162 min/yr = 1,215 min/yr adjusted time ÷ 65 animal days/yr = 18.692 min/animal/day adjusted X \$5.94/hr (\$.099/min) = \$1.851/day at 100%.

<sup>c</sup>Adjustment: \$2.612 X 85% = \$2.220.

Table 2

Animal Resource Facility recoverable and non-recoverable  
expenditures for Fiscal Year 1975-1976, by category<sup>a</sup>

Per Diem Expenses:		\$ 46,540
Feed purchased:	\$ 38,438	
Bedding purchased:	3,426	
Waste disposal:	2,702	
Research Farm general operating costs:	1,973	
Overhead Expenses: <sup>b</sup>		\$ 21,278
Expendable supplies:	\$ 5,732	
Vehicle maintenance:	3,690	
Supplemental utilities:	3,555	
Maintenance of facilities:	3,472	
Medicinal preparations:	3,332	
Repair of small equipment items:	775	
Office machine rental:	567	
Protective clothing:	135	
Operating Expenses: <sup>b</sup>		\$ 29,813
Animals purchased for resale (all categories):	\$ 14,300	
General maintenance and repairs:	12,064	
Expendable supplies (direct recharge):	3,068	
Medicinal preparations (direct recharge):	381	
Capital Improvements:		\$ 52,160
New roof over dog housing area:	\$ 20,000	
Remodel two animal rooms for large animal housing:	7,630	
Purchase five rabbit cage units:	6,350	
Purchase 3/4 ton pickup:	4,140	
Build sheds at Research Farm:	3,300	
Additional capital improvement expenditures:	10,740	
Salaries:		\$ 155,395
Classified employee salaries (not recovered):	\$ 106,045	
Unclassified employee salaries (director, operational manager and veterinarian, not recovered):	32,113	
Student salaries (recovered): <sup>b</sup>	17,237	
General ARF Expenses for Categories Itemized:		\$ 305,186

<sup>a</sup>College of Veterinary Medicine, KSU.

<sup>b</sup>Overhead expense, operating expense, and student salary categories are used to calculate ARF maintenance charges.

Table 3

Income from all categories, received directly and indirectly  
by the Animal Resource Facility, Fiscal Year 1975-1976

Investigator Income (received directly):		\$ 108,929
Per diem money recovered:	\$ 62,234	
Animals purchased (direct recharge):	14,242	
Ancillary services:	13,599	
Sale of conditioned dogs:	12,598	
Expendable supplies (direct recharge):	4,091	
Sale of conditioned cats:	1,530	
Medicinal preparations (direct recharge):	635	
Subsidized Income, College of Veterinary Medicine (received indirectly):		\$ 196,257
Classified employee salaries:	\$ 106,045	
Capital improvement funds:	52,160	
Unclassified employee salaries (director, operational manager and veterinarian):	32,113	
Additional operating subsidy:	5,939	
ARF Income, Fiscal Year 1975-1976:		\$ 305,186

<sup>a</sup>College of Veterinary Medicine, KSU

Table 4

Total animal housing days by category for Fiscal Year 1975-1976<sup>a</sup>

Per Diem Classification	Income Producing Animal Housing Days		Quarantine & Holding
	College of Veterinary Medicine <sup>b</sup>	All Other University <sup>b</sup> Departments <sup>b</sup>	ARF <sup>b</sup>
Canine (dogs, wild canidae, etc.):			
<25 lb.:	7,842	355	00
25 to 50 lb.:	10,119	27	25,743
>50 lb.:	3,131	12	00
Cattle:			
<150 lb. (inside, no bedding):	202	00	00
<150 lb. (inside, bedding):	20	00	4
<400 lb. (inside, no bedding):	992	00	00
<400 lb. (inside, bedding):	182	00	00
<400 lb. (outside):	184	00	216
<800 lb. (inside, no bedding):	1,616	00	00
<800 lb. (inside, bedding):	104	00	00
<800 lb. (outside):	959	00	00
Adult (inside, no bedding):	304	00	00
Adult (inside, bedding):	3	00	00
Adult (outside):	11,734	00	00
Cow, nursing calf (inside):	00	00	00
Cow, nursing calf (outside):	221	00	00
Cattle at Research Farm:	3,646	00	00
Cow, nursing calf at Research Farm:	272	00	00
Chickens:			
<45 days of age:	9,017	00	00
Adult:	10,215	00	4,967
Ducks and Geese:	18	185	00
Feline (cats):	5,529	318	5,295
Frog:	293	52	00
Gerbil:	50	00	00
Guinea Pig:	3,787	1,863	00
Hamster:	288	00	00
Horse:			
Adult (inside):	198	00	00
Adult (outside):	1,723	00	364
Adult at Research Farm:	458	00	631

Table 4

Total animal housing days by category, continued

Per Diem Classification	Income Producing Animal Housing Days		Quarantine & Holding
	College of Veterinary Medicine <sup>a</sup>	All Other University Departments <sup>b</sup>	ARF <sup>b</sup>
Mice:	276,306	54,220	00
Microtus:	23,562	00	00
Parakeets:	525	00	00
Pigeons:			
Gang cage:	2,567	10,374	44
Metal cage unit:	118	00	00
Ponies:			
Campus (inside):	665	00	00
ARF (inside):	517	00	216
ARF (outside):	3,567	182	2,827
Housed at Research Farm:	134	00	473
Quail:	30,019	00	00
Rabbits:	9,032	28,582	2,990
Rats:			
Hanging cage rack:	19,328	15,465	1,046
Polycarbonate cages:	1,183	144	00
Sheep and Goats:			
60-100 days of age (inside):	808	00	00
60-100 days of age (outside):	797	00	00
Adult (inside):	14,879	1,689	380
Adult (outside):	17,098	4,624	4,275
Swine:			
<75 lb. (inside):	775	00	00
<75 lb. (outside):	34	00	00
Adult (inside):	1,222	00	00
Adult (outside):	168	00	00
Lactating (inside):	65	00	00

<sup>a</sup>Animal Resource Facility, College of Veterinary Medicine, KSU.<sup>b</sup>Fiscal Year 1975-1976 total animal housing days:

College of Veterinary Medicine animal days:	476,488
All other University Departments animal days:	118,092
ARF quarantine and holding animal days:	<u>49,471</u>
Total animal housing days, Fiscal Year 1975-1976:	644,051

Table 5

Terminal and non-terminal dog costs<sup>a</sup>

Terminal Dogs: <sup>b</sup>		
A. Drugs and equipment:		\$ 11.491
1. Vaccine:	\$ 3.652	
2. Parasite control preparations:	3.924	
3. Medicinal preparations:	2.109	
4. Miscellaneous supplies and equipment:	1.428	
5. Syringes and needles:	1.378	
B. Processing:		\$ 14.884
1 - 6. Federal transfer forms, individual case sheets, clipping, debarking, tattooing, immunizations, etc.:	\$ 6.930	
7. Cleaning transfer boxes and processing cage area:	1.139	
8. Parasite control:	1.755	
9. Preventive therapy:	5.060	
C. Animal deliveries:		\$ 7.165
1. Surplus animal source number one:	\$ 2.530	
2. Surplus animal source number two:	1.392	
3. Diagnostic facilities:	1.518	
4. Vehicle mileage,		
a. Surplus animal source number one:	1.457	
b. Surplus animal source number two:	.230	
c. Diagnostic facilities:	.038	
D. <u>Per diem</u> :		\$ 97.191
1. Quarantine period:	\$ 18.711	
2. Average holding period:	78.480	
Terminal Dog Cost (at 100% maintenance rate):		\$ 130.73
Non-Terminal Dogs: <sup>c</sup>		
A. The ARF Animal Resource Committee has ruled that an equitable charge for non-terminal dogs should be based on 60% of terminal dog costs:		\$ 78.44
Non-Terminal Dog Cost (at 100% maintenance rate):		\$ 78.44

<sup>a</sup>Animal Resource Facility, College of Veterinary Medicine, KSU.

<sup>b,c</sup>During Fiscal Year 1975-1976, there were 236 terminal and 106 non-terminal dogs sold to investigators and teachers.

Table 6

Terminal and non-terminal cat costs<sup>a</sup>

Terminal Cats: <sup>b</sup>		
A. Drugs and equipment:		\$ 12.800
1. Vaccine:	\$ 8.217	
2. Parasite control preparations:	1.019	
3. Medicinal preparations:	2.323	
4. Miscellaneous supplies and equipment:	1.009	
5. Syringes and needles:	.232	
B. Processing:		\$ 4.658
1 - 7. Federal transfer forms, individual case sheets, identification collars, endoparasite and ectoparasite control, immunizations, preparing cages for quarantine, etc.:	\$ 2.970	
8. Cleaning transfer boxes and processing cages:	.510	
9. Secondary immunization and parasite control therapy:	1.178	
C. Animal deliveries:		\$ 1.127
1. Surplus animal source number three:	\$ 1.020	
2. Diagnostic facilities:	.051	
3. Vehicle mileage,		
a. Surplus animal source number three:	.051	
b. Diagnostic facilities:	.005	
D. <u>Per diem</u> :		\$ 49.324
1. Quarantine period:	\$ 17.997	
2. Average holding period:	31.327	
Terminal Cat Cost (at 100% maintenance rate):		\$ 67.91
Non-Terminal Cats: <sup>c</sup>		
A. The ARF Animal Resource Committee has ruled that an equitable charge for non-terminal cats should be based on 60% of terminal cat costs:		\$ 40.75
Non-Terminal Cat Cost (at 100% maintenance rate):		\$ 40.75

<sup>a</sup>Animal Resource Facility, College of Veterinary Medicine, KSU.

<sup>b,c</sup>During Fiscal Year 1975-1976, there were 92 terminal and 57 non-terminal cats sold to investigators and teachers.



Table 7

Animal Resource Facility hypothetical income  
from all categories with 100% maintenance recovery<sup>a</sup>

Investigator Income:		\$ 204,359
Per diem money recovered (Table 8):	\$ 117,771	
Sale of conditioned dogs (Table 5):	39,167	
Ancillary services:	19,883	
Animals purchased (direct recharge):	14,242	
Sale of conditioned cats (Table 6):	8,570	
Expendable supplies (direct recharge):	4,091	
Medicinal preparations (direct recharge):	635	
Subsidized Income, College of Veterinary Medicine:		\$ 100,327
Classified employee salaries:	\$ 68,714	
Unclassified employee salaries:	32,113	
Hypothetical Income from all Categories at 100% Maintenance Recovery:		\$ 305,186

<sup>a</sup>College of Veterinary Medicine, KSU.

Table 8

Animal Resource Facility hypothetical animal charges  
based on 100% maintenance per diem rates and recovery<sup>a</sup>

<u>Per Diem Classification</u>	<u>Per Diem Rate<sup>b</sup></u>	100% Maintenance <u>Per Diem Recovery<sup>c,d</sup></u>
Canine (dogs, wild canidae, etc.):		
<25 lb.:	\$ .73	\$ 5,983.81
25 to 50 lb.:	.89	9,029.94
>50 lb.:	1.05	3,300.15
Cattle:		
<150 lb. (inside, no bedding):	3.05	616.10
<150 lb. (inside, bedding):	2.55	51.00
<400 lb. (inside, no bedding):	2.37	2,351.04
<400 lb. (inside, bedding):	2.56	465.92
<400 lb. (outside):	1.12	206.08
<300 lb. (inside, no bedding):	2.93	4,734.88
<800 lb. (inside, bedding):	2.01	209.04
<800 lb. (outside):	1.44	1,380.96
Adult (inside, no bedding):	2.93	890.72
Adult (inside, bedding):	2.36	7.08
Adult (outside):	1.49	17,483.66
Cow, nursing calf (inside):	2.59	00.00
Cow, nursing calf (outside):	1.75	386.75
Cattle at Research Farm:	.81	2,953.26
Cow, nursing calf at Research Farm:	.81	220.32
Chickens:		
<45 days of age:	.09	811.53
Adult:	.27	2,758.05
Ducks and Geese:	.33	77.14
Feline (cats):	.86	5,028.42
Frog:	.11	37.95
Gerbil:	.11	5.50
Guinea Pig:	.52	2,938.00
Hamster:	.14	40.32
Horse:		
Adult (inside):	2.73	540.54
Adult (outside):	1.21	2,084.83
Adult at Research Farm:	.80	366.40

Table 8

100% hypothetical animal charges, continued

<u>Per Diem</u> Classification	<u>Per Diem</u> Rate <sup>b</sup>	100% Maintenance <u>Per Diem</u> Recovery <sup>c,d</sup>
Mice:	\$ .02	\$ 6,610.52
Microtus:	.05	1,178.10
Parakeets:	.16	84.00
Pigeons:		
Gang cage:	.04	517.64
Metal cage unit:	.26	30.68
Ponies:		
Campus (inside):	3.23	2,147.95
ARF (inside):	1.72	889.24
ARF (outside):	1.16	4,348.84
Housed at Research Farm:	.81	108.54
Quail:	.05	1,500.95
Rabbits:	.25	9,403.50
Rats:		
Hanging cage rack:	.07	2,435.51
Polycarbonate cages:	.38	504.26
Sheep and Goats:		
60-100 days of age (inside):	.60	484.80
60-100 days of age (outside):	.22	175.34
Adult (inside):	.79	13,088.72
Adult (outside):	.26	5,647.72
Swine:		
<75 lb. (inside):	1.18	914.50
<75 lb. (outside):	.60	20.40
Adult (inside):	1.94	2,370.68
Adult (outside):	1.07	179.76
Lactating (inside):	2.61	169.65

<sup>a</sup>College of Veterinary Medicine, KSU.<sup>b</sup>See Table 1 for per diem rate schedules.<sup>c</sup>See Table 4 for animal housing days.<sup>d</sup>Total 100% hypothetical per diem recovery = \$ 117,770.69.

Table 9

Animal Resource Facility hypothetical income  
from all categories with 185% per diem recovery<sup>a</sup>

Investigator Income:		\$ 305,543
<u>Per diem</u> money recovered (Table 10):	\$ 218,955	
Sale of conditioned dogs (Table 5):	39,167	
Ancillary services:	19,883	
Animals purchased (direct recharge):	14,242	
Sale of conditioned cats (Table 6):	8,570	
Expendable supplies (direct recharge):	4,091	
Medicinal preparations (direct recharge):	635	
Hypothetical Income from all Categories at 185% <u>Per Diem</u> recovery: <sup>b</sup>		\$ 305,543

<sup>a</sup>College of Veterinary Medicine, KSU.

<sup>b</sup>Per diem recovery represents \$357 or .117% above break-even in expenses.

Table 10

Animal Resource Facility hypothetical animal charges  
based on 185% per diem rates and recovery<sup>a</sup>

<u>Per Diem</u> Classification	<u>Per Diem</u> Rate	185% <u>Per Diem</u> Recovery
Canine (dogs, wild canidae, etc.):		
<25 lb.:	\$ 1.35	\$ 11,065.95
25 to 50 lb.:	1.65	16,740.90
>50 lb.:	1.95	6,128.95
Cattle:		
<150 lb. (inside, no bedding):	5.64	1,139.28
<150 lb. (inside, bedding):	4.72	94.40
<400 lb. (inside, no bedding):	4.39	4,354.88
<400 lb. (inside, bedding):	4.74	862.68
<400 lb. (outside):	2.07	380.88
<800 lb. (inside, no bedding):	5.42	8,742.56
<800 lb. (inside, bedding):	3.72	386.88
<800 lb. (outside):	2.67	2,560.53
Adult (inside, no bedding):	5.41	1,644.64
Adult (inside, bedding):	4.36	13.08
Adult (outside):	2.75	32,268.50
Cow, nursing calf (inside):	4.79	00.00
Cow, nursing calf (outside):	3.24	716.04
Cattle at Research Farm:	1.49	5,432.54
Cow, nursing calf at Research Farm:	1.50	408.00
Chickens:		
<45 days of age:	.16	1,442.72
Adult:	.50	5,107.50
Ducks and Geese:	.71	144.13
Feline (cats):	1.59	9,296.73
Frog:	.19	65.55
Gerbil:	.21	10.50
Guinea Pig:	.96	5,424.00
Hamster:	.25	72.00
Horse:		
Adult (inside):	5.05	999.90
Adult (outside):	2.23	3,842.29
Adult at Research Farm:	1.49	682.42

Table 10

185% hypothetical animal charges, continued

<u>Per Diem Classification</u>	<u>Per Diem Rate<sup>a</sup></u>	<u>185% Per Diem Recovery<sup>c,d</sup></u>
Mice:	\$ .04	\$ 13,221.04
Microtus:	.09	2,120.58
Parakeets:	.29	152.25
Pigeons:		
Gang cage:	.07	905.87
Metal cage unit:	.48	56.64
Ponies:		
Campus (inside):	5.98	3,976.70
ARF (inside):	3.18	1,644.06
ARF (outside):	2.14	8,022.86
Housed at Research Farm:	1.49	199.66
Quail:	.09	2,701.71
Rabbits:	.46	17,302.44
Rats:		
Hanging cage rack:	.14	4,871.02
Polycarbonate cages:	.71	942.17
Sheep and Goats:		
60-100 days of age (inside):	1.10	888.80
60-100 days of age (outside):	.41	326.77
Adult (inside):	1.46	24,189.28
Adult (outside):	.49	10,643.78
Swine:		
<75 lb. (inside):	2.18	1,689.50
<75 lb. (outside):	1.12	38.08
Adult (inside):	3.59	4,386.98
Adult (outside):	1.98	332.64
Lactating (inside):	4.83	313.95

<sup>a</sup>College of Veterinary Medicine, KSU.<sup>b</sup>See Table 1 for per diem rate schedules.<sup>c</sup>See Table 4 for animal housing days.<sup>d</sup>Total 185% hypothetical per diem recovery = \$ 218,955.21.

## COMMENTS

Several methods may be used to guard against potential loss of operating revenue: (1) Contracts for the purchase of feed and major supplies may be utilized. Orders should be consolidated whenever possible to utilize discounts. This can lower unit cost and reduce shipping rates. Consumption rates for expendable supplies can be calculated and specified on contracts. Shipments can be arranged so storage time is minimal at the facility and storage space is not over-crowded. Per diem rates need not be adjusted as frequently if long term feed and supplies contracts are in effect. (2) A service charge may be added to the purchase cost of animals ordered for direct resale to investigators and teachers. A percentage of the animal purchase cost plus shipping charge can be added to all animals purchased to defray administrative and set-up charges. These charges include ordering the animals, cage and room preparation, and transport to the housing area upon arrival at the facility. (3) It is especially beneficial for a facility to offer, and for investigators and teachers to utilize, all available ancillary services. Well trained animal technicians can assist in many phases of a research or teaching project. They are proficient in techniques of animal restraint, venipuncture, prescribed medicinal administration, etc. for most animal species. Increased utilization of this activity will fill out the work day and make for more efficient use of personnel.

## CONCLUSIONS

An equitable procedure for calculating per diem rates for animal care has been presented. The methods developed by ARF to calculate per diem rates and determine ancillary service charges provide an economical procedure to allow partial or full recovery of expenses related to housing research animals and to provide ancillary services to investigators and teachers. Major contributions to this economy are properly administered fund subsidies and the use of ancillary service activities to assure effective use of personnel.

If research animal housing facilities are required to break even, per diem rates are much higher and investigators and teachers are required to shoulder a much higher user cost. These per diem rates would be appropriate where another department furnished animal rooms and cages, and ARF provided supplies and personnel to operate them.

If break-even prices are increased to include an adjustment for inflation, depreciation, and building fund reserves, investigator and teacher costs would be even more expensive.



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COST ACCOUNTING FOR AN  
ANIMAL RESOURCE FACILITY

by

Steven Wayne Hall

B. S., Kansas State University, 1972

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AN ABSTRACT OF A MASTER'S REPORT

submitted in partial fulfillment

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Department of Animal Science

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## ABSTRACT

Operating procedures and budget data from the Animal Resource Facility, College of Veterinary Medicine, Kansas State University, were presented for Fiscal Year 1975-1976. Included was an equitable procedure for calculating per diem rates for animal care and an extensive study of time actually required to provide care for each class of animals. Income from per diem charges and ancillary services was adjusted to 100% hypothetical recovery of the ARF maintenance rate. A substantial income deficit remained to be subsidized by the College of Veterinary Medicine. The budget was adjusted further, through manipulation of per diem rates, to show a hypothetical complete budget recovery. No provisions for inflation, depreciation, or building fund reserves were included in budget adjustments. It was concluded that the methods presented to calculate per diem rates and determine ancillary service charges provide an economical procedure to allow recovery of expenses related to housing research animals and providing ancillary services to investigators and teachers. If the hypothetical policy of complete budget recovery were implemented, per diem charges would be much higher and investigator and teacher costs would be even more expensive. Per diem rates for complete budget recovery should serve as guidelines to be used for such applications as in-house accounting for the drug industry, or for a university establishing an animal resource facility independent of a college or operating without a subsidy.