

R54-15

1481. Nitrogen metabolism at varying caloric intakes as influenced by fat content of diet.
DORIS HOWES CALLOWAY AND HARRY SPECTOR.
Quartermaster Food and Container Inst., Chicago, Ill.

Adult rats were fed a commercial ration for a 2-wk. standardization period during which a requirement of 46 cal/day for maintenance of constant body weight was established. Controls were sacrificed at the end of this period for measurement of body composition. Diets composed of egg albumin or whole milk protein containing either 30% or 5% fat were fed for a 4-day experimental period at 3 levels of caloric intake: 100%, 50% or 25% of the determined requirement. The minimum protein requirement (160 mg N/day) was provided in all diets. Fasted controls were also employed. Body weight loss was inversely proportional to the caloric intake but was unaffected by the composition of the diet. Both liver and carcass showed the same qualitative changes in composition but these changes were quantitatively greater in the liver. Nitrogen losses were approximately equal in groups fed 50% or 25% of the caloric requirement but much less than the fasted controls. Fat losses were directly proportional to the caloric deficit. All calorie-restricted groups were in negative nitrogen balance and no superiority of protein source or fat content of the diet was evident.

TECHNICAL LIBRARY
U. S. ARMY
NATICK LABORATORIES
NATICK, MASS.