We have much experimental evidence indicating that the unknown A is principally confined to the germ of the seed. Sunflower seed appears to be fairly rich in this substance.

We have also found that the leaves of certain plants, especially alfalfa and cabbage are very rich in the fat-soluble A as compared with the grains. It is probable therefore that it is universally associated with metabolizing plant cells. We have rats in our colony which have grown to very near the normal adult size at slightly below the normal rate on a simple mixture of polished rice sixty and powdered alfalfa leaves forty per cent. They are in an excellent condition after eight months on this diet and one female has produced young.

We wish to call attention to the importance of having found a good source of the fat-soluble A in foodstuffs containing but little fats and other substances soluble in lipoid solvents. We shall report later on methods of isolating this substance from such sources.

73 (1137)

The effect of exercise on the blood sugar of depancreatized dogs.

By GEORGE M. MACKENZIE (by invitation.)

[*From the Department of Pathology of the College of Physicians and Surgeons, Columbia University, New York.*]

Blood sugar curves of dogs made to run on the treadmill one to four days after extirpation of the pancreas showed:

1. That after 20 to 30 minutes of such exercise, in animals which were being fed 200 grams of meat and bread daily, there occurred a fall in the amount of reducing substance in the blood, sometimes amounting to as much as 100 mgm. per 100 c.c.

2. That in starved animals such exercise caused a rise in the amount of reducing substance in the blood, amounting in one case to 85 mgm. per 100 c.c. during 30 minutes of exercise.

The conclusions suggested by these results are that, even after complete extirpation of the pancreas the power of sugar consumption is not entirely lost, and that there may be a difference in the power of such animals to utilize sugar according as it is derived from tissue proteins or by absorption from the intestinal tract.