genous leucemia, complicated by transverse myelitis of the thoracic spinal cord. Marked prolongation of the circulation time and increased blood viscosity accompanied a high leucocyte count and white blood cell hematocrit.

Summary. 1. Observations of the blood viscosity, hematocrit, blood counts and circulation time were made in a group of patients suffering from chronic myelogenous leucemia. 2. The relation between viscosity of the blood and the total number and volume of the white blood cells was determined. 3. The high leucocyte counts observed in chronic myelogenous leucemia are frequently responsible for marked increase in blood viscosity and prolongation of the circulation time. The probable relation of these changes to the symptomatology of the disease is briefly discussed.

8928 C

Seasonal Variation in Susceptibility of Animals to Tetanus Toxin.

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During the course of certain investigative work with tetanus toxin,* it was noted that there appeared to be a consistent variation in the susceptibility of animals to the same lot of toxin. Judging from the time of onset and the severity of the symptoms in acute and subacute poisoning in the rabbit and guinea pig, there was found an increased susceptibility during the summer months and decreased susceptibility during the winter months. Since this observation was rather incidental, it was decided to determine the actual minimal lethal dose of the toxin at various periods during the year.

For these toxicity studies, guinea pigs were used in all experiments. The toxin was kept in an icebox in small vials sealed in carbon dioxide. Approximately 100 guinea pigs were used. The work was carried on over a 2 year period.

The minimal lethal dose as determined during October and February and a year later in November was found to be from 0.004 to 0.005 mg. per kilo of body weight. This amount will kill approximately 8 out of 10 animals. All animals die with 0.006 mg. per kilo.

* The tetanus toxin for this work was kindly furnished by Dr. McCoy of the National Institute of Health, Washington, D. C.

The minimal lethal dose during the months of June a year apart was from 0.002 to 0.003 mg. per kilo. This amount again killed approximately 8 out of 10 animals and all died with 0.004 mg. per kilo.

If the toxin be thought to change spontaneously on long standing, it of necessity should become either less or more potent. Since identical figures were obtained during the same seasons a year apart, *i. e.*, greater toxicity both summers and lesser toxicity both winters, we are forced to conclude that the differences observed reside in the conditional state of the animals and not to changes in the toxin.

It seems to us, therefore, that there is a sufficient variation in the seasonal susceptibility of guinea pigs to tetanus toxin to justify special care in its standardization.

By contrast to the above data on tetanus toxin, it may be noted that diphtheria toxin appears to be more toxic to pigs in winter than in summer.[1] The two toxins, however, are obviously quite different in character and in mode of action, hence further knowledge is required in order to correlate the differences in the two toxins with respect to seasonal variations of susceptibility of guinea pigs and rabbits.

8929 P

Epinephrine Secretion in Animals with Experimental Diabetes.

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Rogoff and Ferrill[1] have shown that the development and course of diabetes following total extirpation of the pancreas, in dogs, is not modified by reduction or suppression of epinephrine secretion, from the adrenal glands. Further, they observed that in depancreatized dogs, not subjected to operations for interference with epinephrine secretion, a marked reduction in the epinephrine output may occur after various periods, under treatment with insulin on a constant diet.

We are investigating the probable causes for this disturbance of

1 *British System of Bacteriology*, 1931, **6**, 108.

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1 Rogoff and Ferrill, PROC. SOC. EXP. BIOL. AND MED., 1936, **34**, 100.