

November 2. "Plants as insect traps," by Dr. J. H. Barnhart.

### UNIVERSITY AND EDUCATIONAL NEWS

A BEQUEST of \$5,000 was made to Cornell University by Dr. William M. Polk, dean of the Medical College, who died on June 23. His purpose in making it was to continue the John Metcalf Polk scholarship in medicine.

A FELLOWSHIP in applied chemistry, of the annual value of £200, has been established at Glasgow University by the trustees of the Ferguson Bequest Fund.

PROFESSOR RAYMOND BINFORD, head of the department of zoology at Earlham College, Indiana, has been elected president of Guilford College, North Carolina.

THE vacancy in the deanship of the medical college of Cornell University has been filled temporarily by the appointment of Walter Lindsay Niles, M.D., 1902, who will act as dean through the summer. Further action will be taken by the trustees in the autumn.

DR. A. J. BIGNEY, on leave from Moores Hill College, has been appointed associate professor of zoology in Syracuse University for the ensuing year. Irving H. Blake, A.M., instructor in Syracuse University has been appointed assistant professor of zoology in the University of Maine.

DR. IVAN E. WALLIN, who was recently advanced to an associate professorship in the school of medicine of Marquette University, has been appointed acting professor and head of the department of anatomy in the University of Colorado school of medicine.

AT Glasgow University Dr. Thomas Walmley has been appointed lecturer in anatomy, with special reference to embryology. Mr. A. McL. Watson has been appointed lecturer in physiology, with special reference to histology. Dr. John McL. Thompson has been appointed lecturer in botany, with special reference to plant morphology.

### DISCUSSION AND CORRESPONDENCE.

#### THE PREVENTION OF ROPE IN BREAD

DURING the course of an investigation of the physical and chemical properties of bread, which is being carried on by officers of the Sanitary Corps under my direction, our attention has been drawn to ropy bread. The development of rope at present causes a serious loss of wheat and leads to much annoyance and uncertainty in the manufacture of bread.

Quite recently Lieutenant E. J. Cohn has made certain observations which, if they could be made widely known, might greatly aid in controlling the present epidemic. Accordingly I venture to report upon them here.

The familiar practise of adding acid to the dough as a means of checking the development of rope turns out to depend upon the fact that what seems to be the common cause of the condition, the growth of *B. mesentericus*, can not take place in bread at a greater hydrogen ion concentration than  $10^{-5}N$ . At the present time the addition of wheat substitutes in bread-making complicates the situation in two ways; first, because such substances commonly produce a less acid bread, and, secondly, because it is more difficult to find out what quantity of acid is desirable on account of the constantly changing conditions.

It is possible, however, to measure the hydrogen ion concentration of bread by the addition of the ordinary solution of methyl red (0.02 per cent. in 60 per cent. alcohol) to the freshly cut surface of the loaf. Three or four drops of the indicator should be placed upon a single spot and five minutes should be allowed to pass. Then, if the color is a full red without an orange nuance, the hydrogen ion concentration is approximately  $10^{-5}N$ , or more. If an orange tint develops, greater amounts of acid should be added to successive batches of dough until the test with bread just gives the desired color. Our experience seems to show that the growth of rope is inhibited as the hydrogen ion concentration approaches  $10^{-5}N$ , and that bitter flavor in bread appears only at greater acidities.

Professor Wollbach, of the Harvard Medical