

near the coast apple scab may winter on the twigs of susceptible varieties such as Fameuse and McIntosh as a dormant stroma and produce abundant conidia in the spring. It also confirms Morse and Darrow's conclusion that under certain conditions and with certain varieties of apples diseased twigs and water sprouts may be an important factor in the propagation and spread of the disease.

Mr. J. S. Dash when a senior student at Macdonald College devoted some time to the study of apple scab and the results of his studies were embodied in an unpublished paper now in the college library. He collected scabby apples early in the spring that had lain under the snow all winter and found that about five to ten per cent. of the conidia germinated.

On November 27 of the present year the writer collected scabby apples that had lain under the trees after their fall without protection of any kind. During late fall and early winter the temperature fell below the freezing point fifteen times, rising above during the day. There were two periods of severe frost followed by mild weather, the minimum temperature of the first being 11° F. and of the second on November 26 being 1° F. Conidia were abundant on the scab spots and these were placed in hanging drops of distilled water. The spores germinated freely and vigorously and in twenty-four hours showed many germ tubes over 100 microns in length. By count of the spores present in a number of microscopic fields in several hanging drops it was found that over 26 per cent. had germinated. Only those with well-developed germ tubes were counted. The conidia were examined immediately after being placed in the distilled water, and there could be no doubt whatever that the germ tubes had developed while in the water.

It would seem from these observations that the conidia are more resistant to low temperatures than is generally supposed. As material is available it is hoped to carry on further experiments along this line during the winter and spring.

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## SCIENTIFIC EVENTS

### BARON DAIROKU KIKUCHI

BARON DAIROKU KIKUCHI died suddenly at his villa at Chigasaki, Japan, on August 19. Baron Kikuchi was graduated from the University of Cambridge, England, with the rank of "wrangler." He became professor of mathematics in the Imperial University at Tokyo and later its president. He was for a time the Imperial Minister of Education and a member of the Emperor's Privy Council at the time of his death.

He was active and influential in the organization of the Japanese National Academy of Sciences, the National Educational Association and in the development of all the scientific and educational interests of the empire. He was the author of many contributions to scientific journals and several books, including a notable volume on "Japanese Education," consisting of a series of lectures delivered at the University of London in 1907. Baron Kikuchi made several visits to the United States, lecturing in our principal cities and at several of our leading institutions of learning. He was looking forward to another visit to America in the very near future, and his many friends in this country will learn of his death with profound regret.

### THE PRODUCTION OF POTASH IN THE UNITED STATES

MORE potash has been produced during the first six months of 1917 than was made during the entire year 1916. The reports received by the United States Geological Survey, Department of the Interior, have been reduced to terms of the commercial unit commonly used to measure the available or water-soluble potash ( $K_2O$ ) in the product, and only material actually sold by the producer during this period is included. The weight of the materials handled was therefore much greater than represented by these figures.

This table includes practically all potash produced.

The Nebraska alkali lakes still lead, having yielded about one third the entire production. There are now at least four important operators in this field.