NOTES ON AGRICULTURE AND HORTICULTURE.

PREVENTION OF SMUT IN OATS.

THERE is a large loss annually from smut in various crops and oats especially suffers. It was about twenty per cent. at the farm of the Ohio Station, and a fair estimate of loss for the whole United States is more than eighteen millions of dollars annually.

This smutting of the grain, as has long been known, is due to an invading fungus that produces vast multitudes of spores in the grains; in short, the grains are transformed or replaced by the fungus which in its final condition is mostly spores usually dark and dusty.

Prof. Selby shows by his experiments that the smut enters the seedling oat plant by spores adhering to the seed grain and may be prevented by the destruction of the spores attached to the oats before sowing. This may be done by immersing the oats in hot water at a temperature of 133° F. for fifteen minutes. This treatment likewise increases the vigor of the seed. It was also found that "soaking the seed for twenty-four hours in a solution of a $\frac{3}{4}$ per cent. solution of potassium sulphide made by dissolving $1\frac{1}{2}$ pounds of the salt in 25 gallons of water is equally efficient in smut prevention." Both the above methods of treatment apply to wheat, barley and other grains, with certain modifications to suit the particular cases.

BACTERIOSIS OF CARNATIONS.

BACTERIOSIS is a term now growing into general use for the disease in plants due to bacteria. There are several of these troubles caused by micro-organisms, but none more interesting to the mycologist than that of the carnation. Dr. Arthur and Prof. Bolley conjointly have issued the results of their studies in a neat bulletin (No. 59) from the Indiana Experiment Station.

This bacteriosis is widespread among carnations and while seated in the leaves checks the growth of the whole plant. The disease germs enter the plant through the stomates, punctures of insects or by dissolving a passageway in the cellulose through the action of an enzym. The methods of isolating the germs of the *Bacterium Dianthi* Arth. & Boll. n. sp. are given. A full page heliotype plate is presented of gelatine tubes and another of the appearance of a portion of a diseased plant. It is found that any variety of carnation may be affected, but weak and old plants are most susceptible. Other than members of the pink family of plants are exempt from this trouble.

Valuable practical methods of culture to prevent the bacteriosis have been found, the chief ones residing in the fact that the disease is favored by moisture. By keeping the foliage dry, by watering the soil between rows of wire netting arranged to support the plants the disease is largely prevented. The aphis should be kept off.

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CURRENT NOTES ON ANTHROPOLOGY.

RACE AND DISEASE.

SOME interesting studies on the relations of these factors in sociology have recently appeared from the pen of Dr. William Z. Ripley, who lectures on anthropo-geography in Columbia College. One is upon the problems of acclimatization, and may be found in the March and April numbers of the *Popular Science Monthly* It displays a thorough acquaintance with the literature of the subject, and is marked by a careful weighing of the numerous discordant opinions. It cannot be said that he reaches a satisfactory decision in favor of the possibility of acclimatizing the white race in the tropics, which is the chief practical interest of the inquiry.

Another of Dr. Ripley's papers appears

in the March number of the quarterly publications of the American Statistical Association. It is upon ethnic influences in vital statistics, illustrated by a comparison of the Walloon and Flemish inhabitants of Belgium. The facts presented are interesting and from the best obtainable sources; but the complexity of the problem is enormous, and after one has excluded all other possible or probable explanations for the diversity discovered, very little is left which can be strictly called ethnic. For instance, the birth rates, the excess of male infants and the infant mortality may have quite other explanations than those connected with ethnic contrasts.

BUDDHA-LIKE FIGURES IN AMERICA AND ELSEWHERE.

In Egypt, in Greece and abundantly in France, representations of deities seated cross-legged have been found, and frequently by archæologists have been referred to as Buddhistic or Buddha-like figures. In the museum of the Trocadero, Paris, there are a number of such in terra cotta from Chiapas; and at Palenque the cross-legged divinity has been pictured by Stephens (Travels, vol. II, p. 318) and others. Of course, these have been utilized as evidence of Buddhistic influence in North America and Europe.

A severe blow at such illusions is dealt by M. H. Galiment in the Revue de l'Ecole d'Anthropologie (Feb. 15), in an article on 'the oriental attitude of divinities.' By this he means merely the ordinary oriental method of sitting which is common also to our tailors and to many non-oriental nations. This he sharply distinguishes from the religious attitude assigned to the Buddhas. In the latter the legs are crossed, and each foot rests on the thigh of the opposite leg, with the sole turned upward and in full view. This is quite different from the attitude in any of the American specimens known to me, either by observation or by copies. They are seated with the legs crossed beneath the thighs, in the ordinary sartorial position. Thus does another prop fall from the weak structure of the builders of American aboriginal culture on Asiatic foundations.

CURRENT NOTES ON METEOROLOGY.

HURRICANES IN JAMAICA.

A chronological list of hurricanes, earthquakes, and other physical occurrences noted in Jamaica between 1504 and 1880, is given by Maxwell Hall in Vol. II. of the *Jamaica Meteorological Observations* (1896). The first great hurricane experienced by the English in Jamaica was on August 28, 1712, and on August 28, 1722, another very violent one occurred, which resulted in the loss of about 400 lives and the wrecking of forty-four vessels in the harbor of Port Royal. In order that these two visitations might be remembered by the inhabitants, August 28th was appointed to be kept as a perpetual fast by the Act 9 Geo. I., ch. I., passed in 1722. On June 3, 1770, there was a smart shock of earthquake, which was immediately preceded at Cape François by a fall of 2.5 in. in the water barometer, corresponding to a fall of 0.2 in. in the mercurial barometer. Small oscillations of this character have since been noticed at Kingston as accompanying earthquake shocks.

Previous to the hurricane of October 3, 1770, a noise resembling the roar of distant thunder was heard to issue from the bottom of all the wells in the neighborhood of Kingston, twenty hours before the commencement of the storm. A ship captain who noted this fact, and who was informed that it was a prognostic of an approaching hurricane, managed to get his ship into the inner harbor in time to save her from destruction.