

NOTES ON AGRICULTURE (V.)

NATIVE PLUMS AND RUSSIAN CHERRIES.

MR. HEDRICH, in Bulletin No. 123 of the Michigan Experiment Station, states that our native plums are coming into prominence. They are three weeks earlier than the European sorts, and of the 150 varieties the De Soto, Wild Goose and Miner are the most promising. They are not particular as to soil and desirable 'because of their immunity from diseases and insects.'

The introduction of cherries from Russia dates from 1882. They are recommended for localities too cold for ordinary cherries. The fruit is reddish black in color, late in maturing and with 'a peculiar astringent flavor which is often very pleasant.'

PINEAPPLE CULTURE.

BULLETIN No. 27 from the Florida Experiment Station gives, first of all, a full-page plate of a pineapple field in full fruit. Dr. Washburn, the experimenter, has raised the peculiar fruit crop for nine years, and is convinced that it is profitable and that 'pines' can be grown over a large portion of Florida. The plants need to be set eighteen inches apart each way and abundantly supplied with rich food.

THE FLOW OF MAPLE SAP.

It is natural to expect that nearly every subject connected with the production of food supplies will be considered by the Experiment Stations. The one by Mr. Woods of the N. H. Station is upon the flow of sap in maple trees. It is found that the flow of sap is dependent largely upon the depth of the hole, or 'tap,' and the idea that nearly all the sap comes from the outer wood is erroneous, and that sugar makers may profitably tap their trees to a depth of four inches. It was also shown that there is very little gain by tapping a tree in two places; one deep and small hole upon the south side of the tree is sufficient.

DAMPING OFF.

PROFESSOR ATKINSON, in Bulletin No. 94 of the Cornell Station, reports at length upon a study of microscopic fungi that work upon seedling plants in greenhouses and destroy them by what is commonly known as 'damping off.' This fatal result is occasioned by great moisture content of the soil, high temperatures, close rooms and insufficient light—all of which favor the growth of the low forms of fungi, causing the destruction of the stems of the seedling. The conditions above given should be as far as possible eliminated. As the moulds, etc., enter the plants from the soil it is evident that the latter should be as free as may be of the germs. Diseased plants need to be thrown away and, in serious cases, the soil likewise. The soil may be sterilized by steam heating before the seeds are sown. Those who would have healthy greenhouse plants must be wise as mycologists and as loving as mothers.

BYRON D. HALSTED.

SCIENTIFIC NOTES AND NEWS.

THE CONGRESS OF PHYSIOLOGISTS.

As we have already stated, the third *International Congress of Physiologists* will be held at Bern, September 9th to 13th, 1895. Prof. Kronecker, director of the physiological laboratory of the University, has kindly expressed his readiness to afford to members of the Congress all facilities for demonstration and experiment, as well as for the exhibition of scientific apparatus. It is especially wished to have a full exhibition of apparatus, which may be contributed either by physiologists or by instrument makers recommended by members of the Congress. Titles of communications from America may be sent to Professor Frederic S. Lee, Secretary, American Physiological Society, Columbia College, New York City. Professor Bowditch has signified his intention to be pres-

ent, and it is hoped that there will be a full attendance of American physiologists, more especially as at the preceding meeting at Liège there was only one representative of the United States. The following are the resolutions adopted at the first International Congress in 1889:

1. An International Congress of Physiologists shall be held triennially, with the object of contributing to the advancement of Physiology by affording physiologists of various nationalities an opportunity of personally bringing forward experiments, and of exchanging and discussing their views together, and of becoming personally acquainted one with another.

2. Membership of the Congress shall be open to all professors and teachers of biological science, belonging to a Medical Faculty or any other similar scientific body, as well as to all scientific men engaged in biological research.

3. The sessions of the Congress shall be devoted to physiological communications and demonstrations. Further communications relating to original research in Anatomy, General Pathology and Pharmacology are acceptable in so far as they present features of general biological interest.

4. It is desirable to keep the communications as far as possible demonstrational and experimental in character.

5. No official report of the work of the Congress shall be published.

The following regulations were discussed and adopted for conducting business at the sessions of the Congress:

1. The languages recognized as official at the Congress are English, French and German.

2. At each sitting two Presidents for the next sitting are chosen by the meeting, on the proposal of the Chairman.

3. At the opening of the Congress the meeting elects for each of the official languages a General Secretary, who shall su-

perintend the preparation of the minutes of the meetings.

4. The minutes are written in the three official languages by three Secretaries chosen at each sitting by the President in the chair. Each person who makes a communication shall sign the protocol of his own communication. The President in the chair shall confirm the correctness of the minutes for the whole sitting.

5. The length of a communication may not exceed fifteen minutes. When that period has been exceeded the President must ask the meeting whether it desires the communication to continue further.

6. A motion backed by three members for the closure of a communication or of a discussion must be immediately put to the vote.

7. The press shall not be officially admitted to the Congress; each member is free to send private communications to scientific journals.

THE YERKES OBSERVATORY.

A PROGRAM recently issued from the University of Chicago gives the following details concerning the site and building of the Yerkes Observatory:

"The Observatory has been located about a mile from the town of William's Bay, at Lake Geneva, Wisconsin, in an ideal rural region, free from the dust and smoke of civilization and removed from the tremors of railroad traffic. Lake Geneva is about 70 miles from Chicago, and is reached by a branch of the Northwestern Railroad. The site of the Observatory includes 50 acres of timbered land, fronting on the Lake, in the midst of one of the most beautiful regions in the country. The buildings will stand on a gently sloping hill, which rises some 200 feet above the water, and as Lake Geneva is 400 feet above Lake Michigan, the Observatory will be approximately 1200 feet above sea level. It is confidently believed that the favorable conditions of the site, and the established steadiness of the atmosphere in this region, will insure the very best seeing."

"The Observatory building will be of the form of a Roman T, with the great dome at the foot of the letter, the small domes for the 16-inch and 12-inch

telescopes being at the other extremities. The main axis of the Observatory, which is some 300 feet in length, will run east and west; in this will be situated the library and the lecture rooms, laboratories for physical, chemical and photographic work, computing rooms, offices of the astronomers, etc. The building will be made of the most durable material and will be substantially fire-proof. The internal furnishing will include the best modern facilities for heating and lighting, so that the Yerkes Observatory, with its powerful and delicate instruments, will constitute an admirable material equipment for astronomical research."

The mounting of the great telescope by Warner and Swasey, it will be remembered, was exhibited at the Chicago Exposition. All the motions of the instrument are effected by electric motors. Mr. Alvan G. Clark has recently stated that work on the object glass is progressing satisfactorily. The objective is 40 inches in diameter, with a focal length of nearly 64 feet. The largest objective hitherto made by Mr. Clark was that for the Lick Observatory, 36 inches in diameter. Mr. Clark believes that the power of the telescope increases in proportion to the size of the lens and that the limit has not yet been reached.

THE ROYAL ASTRONOMICAL SOCIETY.

ACCORDING to the *London Times* the last meeting of the present session was held on June 4th, Dr. A. A. Common, president, in the chair. For the first time in the history of the Society, a paper was read before it by a lady, Miss Alice Everett, dealing with the orbit of the double star Iota Leonis. Four photographs presented by American astronomers were shown. The first of these was a representation of 'the old moon in the new moon's arms,' *i. e.*, of the earth-lit portion of the new moon. An exposure of 30 sec. showed very distinctly the chief formations of the part in earth-shine. The second and third photographs were, like the first, by Professor E. E. Barnard, and revealed a most extensive nebula embracing the main portions of the constellation Scor-

pio. The fourth photograph, by Professor Keeler, showed a portion of the spectrum of Saturn and its rings, and by the different displacements of the lines in different parts of the rings proved that the inner particles of the rings were moving faster than the outer particles—in other words, that the rings are composed of swarms of minute satellites moving in separate orbits, and are not solid, continuous bodies. Professor C. Michie Smith, director of the Madras Observatory, described the work which he had to undertake since the death of the late director, Mr. Pogson—viz., the preparation and publication of some 30 years' arrears of observations. This had now been finished, and only the catalogue waited completion. He also described the new observatory which the Indian Government was building at Kodai Kanal, on the Pulney Hills, at a height of 7,700 feet above sea level. Amongst other papers read during the evening was one by Mr. Lewis on measures made of the diameter of Jupiter and its satellites at the Greenwich Observatory, measures which by their accuracy afforded a gratifying evidence of the efficiency of the great telescope of 28 inches' aperture recently installed there.

GENERAL.

M. BERTHELOT announced, at the meeting of the Academy of Science of Paris on June 17th, that he had caused argon to enter into combination with the elements of carbon disulphide.

PROFESSOR COPE will publish shortly a work in which he will adduce the evidence in favor of the Neo-Lamarckian view that variations of character are the effect of physical causes and that such variations are inherited. He will aim especially to coördinate the facts of evolution with those of systematic biology.

MR. ARTHUR WINSLOW requests us to state that he has for distribution and will

send on application a list of errata intended to accompany his report on the Lead and Zinc Deposits of Missouri.

IN its issue of June 27th, *Nature* reprints from *Insect Life*, in a slightly condensed form, an article on 'Social Insects' by Professor C. V. Riley, delivered as President's address before the Biological Society of Washington. Professor Riley says that insects undoubtedly possess the senses of sight, touch, taste, smell and hearing, but that touch is perhaps the only sense that can be strictly compared with our own. There is also the best of evidence that insects possess other sense organs with which we have none to compare.

THE International Statistical Institute will hold its fifth meeting at Berne from the 26th to the 30th of August next.

AN addition has recently be made to the Arnold Arboretum (Harvard University) of some fifty acres of land, making the whole area now two hundred and twenty-two acres.

ACCORDING to the New York *Evening Post*, Prof. Koebele, of California, whose discovery of the Australian ladybug as a foe of the black scale in California fruit orchards has been of so great value, has found in Japan an insect which he thinks will prove equally fatal to the potato bug.

THE first week of the Summer Congress at Greenacre, on the Piscataqua, was devoted to the Conference of Evolutionists which held its first meeting on July 6th, under the the direction of Dr. Lewis G. Janes, President of the Brooklyn Ethical Association. The program was as follows:

Saturday, July 6th—Evolution Conference, under the direction of Dr. Lewis G. Janes, President of the Ethical Association; 3 P. M., Professor Edward D. Cope, Ph. D., of the University of Pennsylvania, 'The Present Problems of Organic Evolution;' 8 P. M., paper from Herbert Spencer, of London, Eng., 'Social Evolution and Social Duty,' to be followed by a symposium and brief addresses.

Monday, July 8—3 P. M., Mr. Henry Wood, of Boston, Mass., 'Industrial Evolution;' 8 P. M., Mr. Benjamin F. Underwood, Editor *Philosophical Journal*, Chicago, Ill., 'How Evolution Reconciles Opposing Views of Ethics and Philosophy;' letters and brief addresses.

Tuesday, July 9—3 P. M., Professor Edward S. Morse, of the Peabody Institute, Salem, Mass., 'Natural Selection and Crime;' 8 P. M., Dr. Martin L. Holbrook, editor *Journal of Hygiene*, New York, 'Evolution's Hopeful Promise for Human Health.'

Wednesday, July 10—3 P. M., Rev. Edward P. Powell, of Clinton, N. Y., 'Evolution of Individuality;' 8 P. M., Miss Mary Proctor, of New York, 'Other Worlds Than Ours,' with stereopticon illustrations.

Thursday, July 11—3 P. M., Rev. James T. Bixby, Ph. D., of Yonkers, N. Y., 'Evolution of the God-Idea;' 8 P. M., Dr. Lewis G. Janes, President Brooklyn Ethical Association, 'Evolution of Morals.'

The Congress will be continued during the months of July and August, a lecture being delivered on each afternoon and occasionally one also in the evening. The last lecture will be delivered on August 31st, by Hon. Carroll D. Wright.

PROFESSOR FRASER has obtained, we are informed, definite proof of the antidotal properties of the blood serum of venomous serpents. This result was not unanticipated, as will have been gathered from the statements already published, but its establishment is a matter of great interest, and, perhaps, of some practical importance, since never before, probably, have the bane and the antidote been brought so near together. —*British Medical Journal*.

Two distinct earthquake shocks were felt in Springfield, Mo., on July 8th. The first at 7:30 o'clock and the second a minute later. The duration of the first vibration was five seconds and the second two seconds. No damage was done.

ON July 10th, according to the *Evening Post*, several severe earthquake shocks were experienced in the Caspian and Ural districts of Russia. Many houses were destroyed at Usunada, Astrachan and Erasnovodsk.

At the sixty-first annual meeting of the *Royal Statistical Society* it was announced that the subject of the essays for the Howard Medal with £20 to be awarded in 1896 is 'School Hygiene in its Mental, Moral and Physical Aspects.' The essays should be sent in on or before June 30, 1896.

ACCORDING to the *Medical Record* the meeting of Bacteriologists, held in New York, June 21st, resulted in the appointment of a committee to consider both the papers presented and the discussion that followed, and to make a report to the American Health Association as to the most desirable methods to be observed to secure the greatest uniformity in the results of the bacteriological examination of water. The members of this committee are: Professor W. H. Welch, M. D., chairman; Professor W. Sedgwick, Ph. D., Professor Theobald Smith, M. D., Professor T. M. Prudden, M. D., Professor J. G. Adami, M. D., George W. Fuller, S. B., Professor A. C. Abbott, M. D., Professor V. A. Moore, B. A., M. D.

A NEW Meteorological Observatory has been established on the summit of Mount Wellington in Tasmania.

SIR EDWARD MAUNDE THOMPSON, Principal Librarian of the British Museum, has been elected a corresponding member of the philosophico-historical section of the Berlin Academy of Science.

At the annual meeting of the Numismatic Society of London, Sir John Evans presiding, the silver medal of the Society was awarded to Professor Theodor Mommsen, the veteran historian of ancient Rome, for his distinguished service to the science of Numismatics. Dr. Barclay Head, keeper of coins in the British Museum, received the medal for Professor Mommsen.—*London Times*.

THE last meeting of the Royal Meteorological Society for the present session was held on June 19th. Mr. R. H. Curtis, F.

R. Met. Soc., read a paper on the 'Hourly Variation of Sunshine at seven stations in the British Isles,' which was based upon the records for the ten years, 1881-90. January and December are the most sunless months of the year. The most prominent feature brought out at all the stations is the rapid increase in the mean hourly amount of sunshine recorded during the first few hours following sunrise and the even more rapid falling off again just before sunset. Mr. H. Harries, F. R. Met. Soc., read a paper on the 'Frequency, Size and Distribution of Hail at Sea.' The author has examined a large number of ships' logs in the meteorological office and finds that hail has been observed in all latitudes as far as ships go north and south of the equator, and that seamen meet with it over wide belts on the polar side of the 35th parallel.

THE *Medical Record*, New York, has been enlarged so that each weekly issue now contains 36 pages of reading matter.

Nature states that the Cracow Academy of Science offers prizes of 1000 and 500 florins for the best discussion of theories referring to the physical condition of the earth, and for the advancement of some important point connected with the subject. Memoirs must be sent in before the end of 1898.

UNIVERSITY AND EDUCATIONAL NEWS.

ANTHROPOLOGY IN HARVARD UNIVERSITY.

THE Department of American Archaeology and Ethnology in Harvard University, under the direction of Professor F. W. Putnam assisted by Dr. G. A. Dorsey, has just issued its announcement for 1895-96. The first course in general anthropology is intended to give students a general knowledge of the subject and to be preparatory to advanced work in physical anthropology, ethnology, sociology and history. The first