A CASE OF TRIPLET CALVES WITH PECULIAR COLOR INHERITANCE

The attention of the writer was recently called to a case of the birth of triplet calves which was alleged to have occurred June 20, 1907, on a farm near Waldoboro, Maine. Lately this case has begun to figure in the newspapers along with other real and presumed "nature fakes." The purpose of the present note is to state some of the essential facts regarding the case, which the writer has under investigation. A complete account, with photographs, will be published elsewhere at a later date.

At the outstart it may be stated that there is no doubt whatever regarding the fact of the multiple birth. The three calves, when born, were normally formed, though considerably below the normal in size. They have all continued to live and have grown well. They have not yet, however, reached a size normal for their age. They are apparently in perfect health and condition. As to sex, one of the three is a male, the other two females. A remarkable feature of the case is that the mother of the triplets, thought but seven years old, has produced ten calves. These were distributed as to pregnancies as follows:

Pregnancy	Number of Young
1st	1
2d	1
3d	1
4th	2
5th	2
6th	3

A different bull was concerned in each of the matings.

In regard to color inheritance the condition presented by these calves is of considerable interest. The mother is a grade Guernsey, of the light yellowish-fawn coat color typical for the breed. The father is a Hereford, showing the white face and nearly solid colored body typical for that breed. In his ancestry there is a small admixture of Holstein "blood." Presumably in consequence of this arises the fact that his body coat is black instead of dark red, as in the pure Hereford. The coloration of the calves is indicated in the following scheme:

Male	Female
Typical Guernsey in respect to coat color, with a very close approximation to the precise distribution of color shown by the mother.	*Both typical Herefords*, as to both color and markings. The two are not *precisely* alike in color pattern. One resembles the father in color pattern very closely. The body color of these calves is slowly darkening.

That this case furnishes interesting material for the Mendelist goes without saying. The full discussion of it will be undertaken later.

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CURRENT NOTES ON METEOROLOGY AND CLIMATOLOGY

RAINFALL IN THE PHILIPPINES

A recent publication of the Philippine Weather Bureau deals with "The Rainfall in the Philippines," and was prepared by Rev. Miguel Saderra Masó, S.J. (Manila, 1907, 4to, pp. 31). Rainfall measurements have been made at about sixty stations throughout the islands, but with many interruptions. Over most of the archipelago the maximum rainfall comes in summer and autumn (June to October), the "rainy season." In November to February rain falls abundantly on the eastern and northern coasts. March to May are the driest months. The spring and autumn rainfall is cyclonic. The winter rains come with the northeast monsoon. There are three zones, classified according to their rainfall seasons. (1) Zone of very definite rainy and dry seasons. Annual rainfall 1,500–2,000 mm., and over. (2) Zones with a long rainy season (summer, autumn and winter), and a very short dry period. The annual rainfall is above 3,000 mm. in places, and ranges down to somewhat below 2,000 mm. (3) Zones with more or less uniform distribution of rainfall through the year. At some coast stations the annual amount is over 3,000 mm. Elsewhere it is

between 2,000 and 3,000, or in places below 2,000 mm. The monthly rainfalls at all stations are tabulated, but there is no map.

RAINFALL TYPES AND RAINFALL SEASONS

AN investigation of rainfall types and of their influence upon rainfall seasons has been carried out for certain German stations by G. Schwalbe ("Ueber Niederschlagstypen und ihren Einfluss auf die jährliche Periode des Niederschlages," *Met. Zeitschr.*, September, 1907). The conclusions, which are of wide application, are as follows: (1) The influence of thunder-storm rains upon the annual rainfall amount is considerable; (2) as thunderstorms occur almost wholly in summer, they tend to make the summer the season of maximum rainfall; (3) without the thunderstorm rainfalls the annual period shows a tendency to heavier rains in spring and fall, with less rain in the extreme seasons; (4) in the interior of eastern Germany the continental type of summer rainfall maximum is marked, so that the annual period is not essentially altered by thunder-storms; (5) rainfall which comes in showers is fairly equally distributed throughout the year; (6) squalls have a maximum in spring and fall; (7) general rains have a winter maximum in coast districts; an autumn maximum in transition areas, and a summer maximum in the interior.

CLIMATE AND DURUM WHEAT

"The Effect of Climatic Conditions on the Composition of Durum Wheat" is discussed by J. A. LeClerc, of the Bureau of Chemistry, in the *Yearbook of the Department of Agriculture* for 1906, pp. 199–212. Durum wheat is grown extensively in Russia, Algeria, Italy and Spain, and in the United States it does remarkably well on the great plains. The wheat grown in the drier localities of this country has a higher nitrogen content. In the humid or irrigated regions the tendency of the wheat is to become starchy or mealy. Samples of Kubanka wheat grown in less than 15 inches of rainfall showed 2.7 per cent. of protein in excess of that in samples from localities with more than 15 inches of rainfall, or irrigated. An excessive amount of rainfall, or irrigation, is followed by a crop with a very low percentage of protein. Samples were grown in Colorado and Idaho, some under dry-land farming conditions, and others under irrigation. Of these, the former showed 4.16 per cent. more protein than the latter. Hot seasons produce the most abundant crops, and the longer the growing season, as a rule, the lower the percentage of protein.

CYCLONES AND TILTING OF THE GROUND

IN *Nature*, September 26, 1907, mention is made of some observations by Omori on the tilting of the ground during cyclones in Japan. On October 10–11, 1904, when a cyclone passed off to sea east of Tokio, there was a tilting of about 3½ inches towards the area of low pressure. On January 10–11, 1906, a cyclone passed close to Tokio, from southwest to northeast, and was accompanied by a tilting, first to the east, and then, as the cyclone center moved eastwards, to the west. The total change of inclination was about 2″.87. The ground rose under the cyclone in the latter case, and sank in the former. The difference is explained as being due to the fact that the sea level usually rises by more than enough to compensate for the fall of pressure, and hence the resulting pressure on the bottom of the sea is really greater with a low than with a high barometer.

MONTHLY WEATHER REVIEW

No. 7, Vol. XXXV., *Monthly Weather Review*, 1907, contains the following papers: Professor Cleveland Abbe, "The Fundamental Interval in Meteorological and Climatological Studies, especially in Charts of Isohyetal Lines"; largely a review of Hellmann's recent memoir on the precipitation over the watersheds of the north German rivers. W. H. Alexander, "A Possible Case of Ball Lightning," at Burlington, Vt., July 2, 1907. Professor F. H. Bigelow, "Studies on the Phenomena of the Evaporation of Water over Lakes and Reservoirs," deals with the proposed study of the problems of evaporation at the Salton Sea, in southeru California. Professor Cleveland Abbe, "Australian Climatology," brief statement concerning the gen-

eral circulation of the atmosphere in Australia and around the south pole. D. T. Maring, "The New Jamaican Weather Service," refers to the reorganization of the Jamaica weather service under Maxwell Hall.

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Conference of State University Presidents in the Middle West

One of the greatest movements in education in the nineteenth century was the establishment of state universities. The development of these institutions promises to be most significant in the twentieth century. President Harper's sentiment, expressed shortly before his death, that no matter how liberally the private institution might be endowed, the heritage of the future, at least in the west, was to the state university, received confirmation from statistics made up in connection with the conference of the presidents of fifteen state universities in the middle west, held at the University of Iowa, in Iowa City, October 31 to November 2.

The institutions in the group are the following: Ohio State, Indiana, Purdue, Michigan, Wisconsin, Illinois, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas, Colorado and Oklahoma—the heads of public school systems having an aggregate school attendance of 4,573,631. All but Illinois and Missouri were represented by their presidents at the Iowa City conference, which was the fourth triennial meeting of this group of presidents. The total attendance at the fifteen state universities in 1906–7 was 34,770, or some 6,000 more than the number of students in attendance at fifteen representative eastern universities and colleges.[1]

Still more striking is the result of a comparison with the attendance of the same institutions ten years ago. The attendance at the fifteen state universities in 1896–7 was 16,414. The increase in a decade has been 112 per cent. The attendance at the fifteen eastern universities and colleges in 1896–7 was 18,331, while in 1906–7 it was 28,531, giving an increase of but 56 per cent., or just half the percentage of increase shown by the state universities. Looking at the figures in another way, in 1896–7 the representative eastern schools were 2,000 ahead of the group of state universities in attendance, while in 1906–7 they were 6,000 behind.

Thinking that the difference shown might be sectional—the Mississippi Valley against the east—instead of a difference in favor of the state institutions, a further comparison was made between the attendance at the state universities and that at the same number of representative private institutions in the states of the middle west[2] and it was found that these private institutions showed an increase of 58 per cent. in attendance during the past decade as against 56 per cent. in the eastern institutions, and 112 per cent. in the state universities.

The preceding conferences were held at the University of Wisconsin in 1897, at the University of Illinois in 1900, and at the University of Missouri in 1903. Upon

[1] The eastern institutions taken for comparison were Harvard, Yale, Columbia, Princeton, Cornell, Pennsylvania, Wesleyan, Brown, Dartmouth, Amherst, Williams, Bowdoin, Bryn Mawr, Wellesley and Vassar. The institutions were selected not only as representative but as combining universities, colleges and women's colleges, because a few of the state universities are as yet substantially in the college state and because all are coeducational.

[2] The institutions taken for this comparison were Northwestern University, Drake University, Oberlin College, Washington University, Ripon College, Hillsdale College, De Pauw University, Hamline University, Colorado College, Washburn College, Nebraska Wesleyan University, Western Reserve University, Fargo College, Dakota Wesleyan University and Yankton College.