

vantage in my life in many ways. The great blessings of life cannot be measured by the standard of dollars and cents. In the first place it has brought me great pleasure in the study of the laws of Meteorology and the causes that produce the many changes and "eccentricities" of the weather. There is some new phenomenon every day. A study of the different cloud formations, change in temperature, change in humidity, wind velocity and direction, atmospheric pressure, electrical phenomena, dew, frost, snow in all its various forms and many other similar effects make Meteorology one of the most interesting and fascinating sciences. We are immersed in a sea of atmosphere and are influenced and affected by the weather every minute of the 24 hours of the day. Each co-operative observer should secure an elementary text book on Meteorology and take up the study systematically and a careful study will bring new richness into the life and a new interest in the work of the noble men and women who constitute the group of co-operative observers of the state of Ohio.

Again the systematic, painstaking and conscientious reading of the instruments and tabulation of the same every day will have a reflex influence upon the development of character. No one can faithfully do this work for even a short period of years without being a better man or woman for it. This is the greatest and most valuable compensation for character is eternal. It is what Christ meant when He said we should "lay up treasures in heaven."

Among the many other compensations that might be mentioned is the consciousness that we have made some though a seemingly very small contribution by our assistance to the great fund of scientific knowledge. We are helping to discover scientific truth, to find out Nature's or God's laws like Galileo, Kepler, Newton and thousands of others. For this reason I am more than satisfied. I am delighted with my reward.—*T. H. Sonne-decker*, Co-operative Observer, Tiffin, Ohio.

AGRICULTURAL METEOROLOGY

Joseph Burton Kincer, U. S. Weather Bureau, Washington, D. C., has been appointed vice-chairman of the Committee on Agricultural Meteorology.—*J. Warren Smith*, Chairman.

Rainfall and Farm Work

Some months ago in a letter regarding the use of a raingage in field experiments Prof. R. E. Currin, Superintendent of the Pee Dee branch Experiment Station in South Carolina, expressed himself in no uncertain terms regarding the importance of a knowledge of the rainfall in farm operations. Part of his letter follows:

"As you know it would be almost useless to conduct any field crop experiment without knowing the amount of rainfall it took to produce that crop. For after all 'weather' is the controlling factor in the production of crops. . . . Personally, I am very much interested in the probable use of the raingage on the farm as a guide to better cultural methods in so far that it may be used to give a knowledge of the soil moisture at all stages of culture. I seldom make a mistake of cultivating while the land is too wet, as a great many farmers do. I am also assisted in knowing when the land is not too wet. On a good many occasions I have commenced to plow as much as half a day earlier than my neighbors, because they *concluded* that the land was too wet while I *knew* it was not. Sometimes a half-day's work at certain periods of crop production means increased production at minimum cost. In conversation with some of our best planters they have agreed with me that the use of a raingage on large farms may be very necessary to full crops."—*J. Warren Smith*, Chairman.

Weather and Plant Diseases

Anthraxnose, a fungus disease of watermelons, canteloupes, cucumbers, and the like, is spread very rapidly by rainy weather. If the rains are frequent, the vines may die before the melons are full grown. Usually the disease shows on the foliage throughout the summer and with frequent rains at the harvest season, the melons are undersized and do not ship well.—*J. Warren Smith.*

Charging the atmosphere with an excess amount of carbonic acid gas has been known to increase the yields of greenhouse cultivation.—*Sci. Serv.*

Amplified Local Forecasts For Farmers

An unusual service rendered by the U. S. Weather Bureau has been carried on for the past two years by the office at Lansing, Michigan, in co-operation with the county agents, and state farm bureau. Each morning an "amplified forecast" is issued by the Weather Bureau, and distributed by the farm bureau to all its agents.

This forecast is but an amplification of the regular 36-hour forecast, giving in brief an idea of the general character of weather to be expected for from two to four days in advance. This has proven of great value to agricultural interests, who are thus enabled to obtain a fairly accurate idea of the advisability of performing certain work. As an example, a farmer can tell on Tuesday, from these forecasts, whether showers are likely to occur on Thursday, before his hay is dry, or whether the showers are more likely to hold off till Friday or Saturday, by which time his hay can be taken care of.

During the active farming period, some of the county agents have found these forecasts so valuable that they are asking that they be telegraphed to them, and where this is done, they are found to be of inestimable value.

Mr. D. A. Seeley, the meteorologist who performs this service, and who is something of a farmer himself, is fully aware of the value of these forecasts to the agriculturists, and is desirous of seeing its field widened.—*B. B. W.*

Bees wintered poorly in the unusually cold weather of the intermountain plateaus of the West, where bee-culture is most extensive in the United States. High mortality among spring lambs in the cold weather of April in the West has lead to a marked rise in the price of the meat. According to many reporters, the crop of spring pigs has been subjected to severe losses on account of generally unfavorable weather conditions especially heavy rains over a large part of the corn belt early in April.—*Abstr. from Weather, Crops and Markets.*

RADIOS FROM ARCTIC TO HELP AMERICAN BUSINESS

Radio reports which explorers will send from the Arctic region are expected to add to meteorological knowledge and make more effective the Government's system of weather forecasts according to E. B. Calvert, in charge of the forecast division of the United States Weather Bureau. Arrangements for the first series of the reports from the Amundsen Arctic expedition have already been made.

"We feel certain," says Mr. Calvert, "that conditions in and about the polar regions have a decided bearing on conditions of the inhabited regions to the southward. The crying need is for more information from these places. It is not supposed that telegraph, telephone or cable lines will ever be advanced into the frozen regions of the north, but it is well