

ECONOMICS

Wheat Production Increase Outstrips Consumption

MANKIND is growing wheat much faster than it is eating it, so that much of the present distress in agriculture is due to an evil long familiar to manufacturing—simple overproduction. This was the thesis of an address by G. V. Jacks, of the staff of the Rothamstead Experimental Station, delivered before the meeting of the British Association for the Advancement of Science at York.

During the last twenty years the world's wheat area has been increased by over 20 per cent., and production by over 25 per cent.; the increase in population over the same period has probably not been more than 14 per cent., Mr. Jacks said. The causes of this overproduction have been very complicated, and are hard to analyze; but economic, scientific and political factors have all played their parts.

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BOTANY

Plant Sociology Organizes Common-Sense Knowledge

PLANT sociology, the youngest and newest of the great family of plant sciences, was the subject of a radio talk given under the auspices of Science Service by Dr. H. S. Conard, professor of botany at Grinnell College. The talk went on the air over the network of the Columbia Broadcasting System.

Although its definite history dates back only about fifteen years, the real roots of plant sociology are in the much older common-sense knowledge of plants as they occur in nature, Dr. Conard said. It attempts to put in order what all field botanists, farmers, foresters and flower lovers know, and to enrich and deepen and organize this knowledge.

"The word sociology can be applied to plant life only in a somewhat figurative way," Dr. Conard continued. "In human society we have the conscious cooperation of individuals or the conscious lack of cooperation, directed to the accomplishment of some aim or plan for future achievement. Obviously this does not occur in plant societies. Trees may get their heads together, but they do not lay plans.

"But there are also many social relations in human and animal societies which come about without planning.

The mere existence of two persons within the ken of one another brings about a social relation. It is in this latter way that plant sociology resembles the sociology of August Comte. Plants do live together in social units, each plant having an influence upon all the plants in its vicinity. This sociology, both of humans and of plants, has to do with the life organisms in social units, as distinguished from the life of the individual by and for itself."

Plant sociology is only beginning its development in this country, Prof. Conard said; but it is well evolved in Europe, and already has its practical applications there. European foresters visiting this country often pay little attention to the trees in American forests, but examine minutely the shrubs and mosses that grow beneath them, because these lesser plants are highly significant as indicators of the health and vigor of the forest, and of its probable course of development.

Dr. Conard is himself a pioneer in the introduction of the study of plant sociology in America. With Prof. George D. Fuller of the University of Chicago, he has translated into English a universally used work on the subject, which will be published this fall.

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PSYCHOLOGY

Babies' Appreciation For Color In Art Tested

YOUNG children have a gradually increasing appreciation for artistic coloring in pictures long before they reach school age, it is indicated by an experiment conducted by Dr. Ada Hart Arlitt, assisted by Pessa Polasky, at the Pre-School Laboratory of the University of Cincinnati. Dr. Arlitt reported the results of the experiment to the American Psychological Association.

The psychologists, in an effort to discover whether such young children have a preference for harmoniously colored pictures, showed the youngsters twenty masterpieces of art first in their original colors and then colored to violate the laws of color harmony. Increasing numbers of the children preferred the original masterpieces.

Colored pictures are preferred to black and white by about 60 per cent. of all age groups from two to four years. When the children were given a choice between primitive pictures and samples of modern art dealing with the same subject matter they showed no discrimination between them.

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IN SCIENCE

ASTRONOMY

Photo Shows Corona Three Diameters From Sun

ONE STREAMER of the sun's corona extended for at least three diameters from the sun at the time of the August 31 total eclipse. This is shown on a photograph taken by Dr. P. M. Millman of Harvard College Observatory with a short focus lens, an 88-second exposure, and plates sensitive to infra-red or long wave "heat" light. So far this is the longest extension reported by any observers of the recent eclipse.

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PSYCHOLOGY

Students Less Neurotic Than Married Couples

MARRIED couples are more neurotic than college students, Dr. Raymond Royce Willoughby of Clark University told the Psychological Association. He reported a study of 160 married couples and an equal number of college boys and girls.

"Both husbands and wives were more neurotic than the college students of the same sex used as controls," Dr. Willoughby said. "The difference was moderate in the case of the husbands and marked in that of the wives."

But be careful how you use this in an argument with your wife or husband; for Dr. Willoughby found that a tendency to ascribe neuroticism to the spouse is associated with neuroticism in the individual himself.

Husbands are afraid of meeting the important person at a reception. Wives are easily moved to tears. Man students get stage fright and become depressed because of poor marks. Girl students say things on the spur of the moment which they later regret and they are also troubled with ideas running through their heads so that they cannot sleep. Dr. Willoughby also found that the greatest differences between husbands and wives, all in favor of the husbands, are: Fear of lightning, getting tired of work easily, stage fright, being easily moved to tears.

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E FIELDS

PSYCHOLOGY

Delayed Reward Loses Effectiveness

IF THE BEHAVIOR of rats has any lessons for human beings, it is not so helpful in teaching a child to tell him when he is good that next week he can go to the movies. Better give him a piece of candy or a pat on the head immediately.

Experiments in teaching white rats to follow a maze or to choose between black and white to receive a reward, demonstrate that as the reward is delayed, it decreases in effectiveness with extreme rapidity, Dr. John B. Wolfe, of the University of Illinois, reported to the American Psychological Association.

Delays of 5 and 30 seconds, and 1, 2½, 5, 10, and 20 minutes were used with trials of no delay for comparative purposes.

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PHYSIOLOGY

Taking Alcohol Shown To Increase Acidity of Blood

THE INGESTION of alcohol leads to definite changes in the blood, some of which can be used to explain common symptoms of alcoholism. This is the general conclusion reached in a series of studies just completed by Dr. Harold Himwich, Delafeld DuBois, and associates in the physiological laboratories of the Yale Medical School.

Dr. Himwich, who is well known in the field of carbohydrate metabolism, has directed his activities toward the metabolism of alcohol in order to see how the body is able to burn this substance.

Thirty dogs and eleven human subjects were tested following the administration of 19 per cent. alcohol in doses comparable to a tumblerful of whiskey. Chemical analyses of the carbon dioxide content, the carbon dioxide capacity, for lactic acid, glucose alcohol and determinations of the acidity of arterial blood were all made before and after the doses of alcohol were absorbed.

The results in man and dog were similar; that is, both showed the subject in question to be in a state of acidosis. The increase in the blood sugar was particularly striking. So was the increase in the acidity of the blood, determined by a cleverly made glass electrode which Mr. DuBois has perfected so that it can reveal the smallest change in acidity values for blood that have as yet been measured. And it was the lactic acid alone which seemed to be responsible for this acidosis.

"The picture of the acidosis is a complete one," says Dr. Himwich, and due, we feel, to the narcotic action of the alcohol."

Alcohol depresses the respiratory centers in the brain and so allows acid to accumulate in the blood. It also favors the breakdown of glycogen stored in the liver and muscle to glucose and lactic acid

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PALEONTOLOGY

100,000-Year-Old Ice Box Yields Treasure of Fossils

A NATURAL refrigerator that has kept animal bones and plant remains intact ever since the Ice Age—a hundred thousand years or more—is reported by Prof. Albert S. Wilkerson of Alaska Agricultural College and School of Mines, Fairbanks, to the American Museum of Natural History.

The refrigerator consists of a series of beds of frozen muck overlying gold-bearing gravels. To get at the gold, the mining company that is exploiting the gravels brings water ninety miles across country in a great ditch, and uses it to melt frozen muck and sluice it away. This naturally uncovers the bones, tree stumps and other objects that have been frozen in for ages.

The animals whose bones Prof. Wilkerson has sorted out of the muck include mammoths, giant bison, extinct horses, caribou, an occasional moose, and many rodents. The tree stumps are apparently spruce. Rodent nests are made of long, coarse grasses and sedges. There are many beds of peat, and occasional frozen lumps of green moss, which disintegrate on thawing.

A notable discovery by Prof. Wilkerson in the frozen muck consists of beds of volcanic ash, almost entirely composed of minute fragments of obsidian. This indicates that the volcanoes of Alaska were active during the formation of the muck beds.

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ASTRONOMY

Great Shooting Star Shower Predicted For November

HOPES for a great shower in November of the Leonid meteors were held out to astronomers attending the fourth meeting of the International Astronomical Union by Dr. Charles P. Olivier, director of the Flower Observatory of the University of Pennsylvania, in his report as president of the commission on shooting stars.

"During the past four years," he said, "the most important events in meteoric astronomy have been the good showers of the Leonids in 1930 and 1931. When these observations are added to the predictions based on computations of the perturbations, there is good reason to hope for an even better shower in 1932, perhaps rivalling that of 1866."

It was urged that studies be continued of the three principal places in the world where great meteors are supposed to have struck the ground. One of these is in Arizona, another in Siberia, and the third in the Adrar in North Africa. Exploration of the latter is considered particularly urgent, because the exact location of the mass is unknown at present, and the danger from shifting sands of the Sahara Desert may prevent scientists from finding it if the search is too long delayed. A preliminary report on it was published in France in 1923, according to M. Jean Bosler of the Observatory of Marseilles. Then it was estimated to be 300 by 120 by 120 feet in size and to weigh a million tons. M. Bosler stated that a search for it would be fairly easy, provided French troops were provided to protect the party from the bandits which are the greatest danger.

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PSYCHOLOGY

Oldest Child Most Likely To Become College Student

COLLEGE classes contain a disproportionately large number who are the eldest in the family, a survey conducted by Dr. Mazie Earle Wagner, of the University of Buffalo, indicates. Dr. Wagner reported her study to the American Psychological Association.

The number of middle-of-the-family children was disproportionately small, she said. The survey also indicated that eldest children do better on college aptitude tests.

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