

rainfall and the degree of objectionableness in clay. The fertility of soil in any given locality is dependent to a considerable extent on the fact that it fits in with the climatic conditions in supplying the needs of the plant. To make the complexity worse the soil itself is not constant but is always <sup>varying</sup> within certain limits.

3. Temporary changes in plants brought about by changed conditions, wholly independent of the plant breeder. It is a commonplace among farmers that certain soil conditions influence not only the yield but the quality of crops. At Rothamsted, in England, the sugar content of mangold roots, an important factor in determining feeding value, was increased by increasing the supply of potassium to the crop. Grass has been increased in feeding value, quite apart from any increase in quantity, when treated with phosphates. At Rothamsted a high class cook can distinguish between the quality of potatoes fertilized with potassium sulphate and those fertilized with potassium chloride. Grain however, has proved more difficult to alter by changes in environmental conditions although the protein in wheat has been increased by increased soil moisture.

The Institute of Brewing in England now is making a full investigation of barley, still the basis for the national beverage. It has been found that increased moisture increases the amount of nitrogen in the grain and so also does an increased nitrogen supply, although to a much less extent. Other substances, such as both potassium and phosphatic fertilizers may decrease the percentage of nitrogen, although they do not always do so. The laws regulating these changes still are unknown, Sir John said.

4. Control of pests or parasitic diseases, which in England ruin at least ten per cent. of the total value of the crops each year. These may be controlled, Sir John said, through study of the three controlling factors. Pests and parasites do harm only when they are present in an attacking state; when the plant is in a sufficiently receptive state, and when conditions are favorable to the development of the pest. Complete control of any of these three conditions would end all plant diseases, he said. If plants could be pushed through the receptive stages before the pest was ready they would escape attack. In the Sudan cotton thrips have been placed in a measure under control by giving the plants protection against the drying north wind and so maintaining a more humid atmosphere - a condition under which the plant thrives better than the pest and is past the stage of attack before the latter is ready. The best remedy, he said, still lies with the plant breeder, by producing a variety immune to all diseases.

#### URGES ADOPTION OF SIMPLER CALENDAR

Just because a whimsical Roman emperor decided he wanted an awkward, unscientific calendar why must all future generations follow suit?

This question was raised by Charles F. Marvin, chief of the United States Weather Bureau, before the physics section of the British Association for the Advancement of Science.

Our complex and awkward calendar, Mr. Marvin said, with months of unequal lengths made up of four weeks plus 0, 1, 2, or 3 days absolutely prohibits orderly and rational summaries of statistical data in suitable units of conveniently increasing time.

He urged the adoption of a simple equal-month calendar with months of four weeks each, quarters of thirteen weeks, and years of 52 exact weeks.

He would absorb the unavoidable extra day in common years and two such extra days in leap years.

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RATTLESNAKE THRONE FOUND IN MAYA RUNIS

Carnegie Institution excavators at work on the ruins of Chichen Itza, Yucatan, have penetrated to the throne of the king, perhaps the most magnificent spot within the columns of the buried chief city of the prehistoric Maya empire.

The throne is a magnificent affair, thirteen feet wide, seven feet deep and three feet high. On the sloping sides are carved elaborately costumed warriors, weaving in and out among which are rattlesnakes, sacred to Kukulcan, principal god of the Itza. This panel is topped with a cornice composed of intertwining rattlesnakes. The throne was painted in deep red, warm yellow, brilliant blue and green.

The throne and council chamber were found in the northeast colonnade of the buried city. The excavators were guided in their work by four sculptured columns, the rest of the 48 which compose this colonnade being plain. The walls and plain columns were painted with frescoes in bright colors, now almost entirely destroyed. The floors were of hard lime plaster, painted a rich red. Around the back and side walls runs a deep, broad bench with sloping back, where perhaps the Itzan dignitaries, priests and councilors sat in solemn deliberation with the king seated on his "rattlesnake" throne.

Another very important discovery has been the outer wall of the colonnade with its sculptural decorations uninjured, in position at the southwest corner. This shows the original height of the building to have been nineteen and a quarter feet. Around the top of the building there had been a sculptured rattlesnake cornice - the head of one reptile and the tail of another still projecting at this point. Below this there were two great, grotesque human heads with square eye sockets, curling noses, filed teeth set in grinning mouths and square earrings. These are representations of none less than Kukulcan himself. Below is another cornice of intertwining rattlesnakes.

Life in Chichen Itza, however, was not entirely one of grotesque reverence to Kukulcan and his rattlesnakes.

The Carnegie Institution excavators announce the uncovering of a ball court just north of the throne location in which a game similar to the American basketball was played. This game, which was introduced by the Toltec-Aztec conquerors of the city, had for its object the driving of a solid rubber ball through a ring fastened in the side of the wall. The court just uncovered is the third to be discovered in the "New" Maya Empire.

The game was known as "tlachtli". The hole through the ring being perpendicular to the wall, it was necessary to stand very close to the wall and throw the ball practically parallel to the axis of the wall. The ball would not be thrown directly with the hand, but had to be struck with the elbow, wrist or hip. The