PROTOPLASM, the jelly-like stuff that is the physical basis of life, can be stretched like rubber, if one employs the proper tools. At the meeting of the physiological section of the Botanical Society of America, Professor William Seifriz and Janet Plowe, of the University of Pennsylvania, reported on tests conducted on this property of the life-stuff. They took hold of bits of protoplasm with ultra-fine needles manipulated under the microscope, and stretched it as far as they could before it broke. Then they treated other cells with various chemicals, and tested the extensibility of the protoplasm after treatment. Some of the chemicals increased the stretchability, others diminished it. Salts of calcium and strontium increased the extensibility, magnesium salts did not affect it, and salts of potassium, lithium and sodium diminished it.

SHORT rations of sunlight for bean plants apparently mean short rations of the protein-making nitrogen captured from the air by the nodule-forming bacteria on its roots. At least, shortened daylight hours impede the development of the nodules themselves, Professor Scott V. Eaton, of the University of Chicago, has discovered. Professor Eaton also reported his researches to the plant physiologists. He grew numbers of soy beans in a greenhouse so arranged that parts of it could be darkened at any time. He shortened the days of various lots of plants to 3 hours, 4 hours, 5 hours, 6 hours, 8 hours, 10 hours. Others he allowed the benefit of the full day, and to still others he gave the added benefit of electric light from 4 o'clock in the afternoon until 10 at night. He also clipped the leaves of some of his plants, to shorten their food supply in this way. Then he harvested them and weighed up tops, roots and nodules, and chemically analyzed the tissues. He found in general that the amount of certain manufactured plant foods present and the weight of the all-important root nodules decreased together, proportionately to the shortening of the daylight hours, and also proportionately to the degree of clipping to which the plants had been subjected.

LIVER extract, successfully used to check the course of pernicious anemia in human beings, has been used to check the analogous yellowing of plants placed in the dark by Professor Oran Raber, of Immaculata College. The activity of liver extract in checking this yellowing, or etiolation, of darkened plants, raises again the question of the possible physiological relationship between chlorophyl, the substance that makes leaves green, and hemoglobin, the stuff that makes blood red. Liver extract keeps red blood in the veins of the anemic, it now appears to keep green chlorophyl in the leaves of plants.

CORN plants bearing none but male flowers, and others bearing none but female, have been produced by Dr. Donald F. Jones, of the Connecticut Agricultural Experiment Station. Dr. Jones described the work at a meeting of the American Association. Ordinary corn plants bear both male and female flowers. The male flowers are in the tassel, the female in the ear with its silk. Two hereditary factors have been found in a strain of corn, one acting to eliminate the tassel, the other to suppress the silk. If one of these unusual one-sexed plants is crossed with one of opposite sex, the offspring are all normal corn plants, bearing flowers of both sexes. But the second generation offspring will throw off further one-sexed individuals.

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