glass bottles. Some time later Booth and Kon[6] showed that the power to reduce the reagent could be restored to an extent varying with the length of exposure to light by treating the milk with hydrogen sulfide. The further detailed study by Kon and Watson yielded the following information:

Under the action of light the ascorbic acid of milk undergoes reversible oxidation, most probably to dehydroascorbic acid. Visible light of short wave-length (blue and violet) is mainly responsible for the reaction. Ultra-violet light is also probably active, but yellow and red are almost without effect. The action of light does not take place in the absence of oxygen, and the reversible oxidation follows the laws of a unimolecular reaction. The reversibly oxidized product is biologically active. The product suffers further decomposition spontaneously, without the agency of light, giving a substance which fails to decolorize the indophenol reagent even after treatment with H_2S and is devoid of biological activity. This reaction does not run to completion. Synthetic ascorbic acid added to milk behaves, under the action of light, in the same way as the ascorbic acid originally present.

Pasteurization by the holder method destroys the reversibly oxidized, but does not affect the reduced, form of ascorbic acid in milk. Milk, as secreted by the normal cow, contains only reduced ascorbic acid. The amount of destruction of vitamin C caused by pasteurization in the absence of catalytic metals (copper) depends on the previous exposure of the milk to light.

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FISH IN THE LATAH FORMATION OF IDAHO

THE purpose of this notice is to bring to the attention of vertebrate paleontologists the existence of fish skeletons in the Latah formation.

In May, 1936, Dr. R. L. Lupher conducted a field trip along the Clearwater River for his class in historical geology. The writer was very pleased to accompany the class as a guest. One of the stops was at a road cut, on the north bank of the river, eleven and one half miles east of Lewiston, Idaho, in T. 36 N., R. 4 W., Boise Meridian. This seems to be the collecting locality called Station 4 by Kirkham and Johnson,[1] who found at least twelve species of plants, which were later described by Berry.[2] Here the Latah beds strike N. 85° W. and dip 20° W. They are composed of yellow and porcelaneous white shale with an eight-inch bed of gray volcanic ash passing through the center of the outcrop.

Fragmentary remains of fish were found by several members of the party. Messrs. J. Bone, A. O. Huhn, M. Morsing and J. Storall uncovered three complete skeletons, which they kindly presented to the writer. Since the first discovery the writer has visited the outcrop twice and both times has found fish remains. The skeletons are from four to six inches long and have been determined temporarily as belonging to the genus *Leuciscus*. Accurate determinations, as yet, have not been made. One slab, measuring ten inches by fourteen inches, has yet to be uncovered.

Dr. F. B. Laney[3] has found bone fragments, and Berry[2] has noted occasional scales, spines and bones in the Latah formation; but, so far as the writer is able to ascertain, this is the first discovery of complete and articulated fish skeletons. Although these skeletons are from only one locality in Idaho, the writer is confident, because of the fine grain of the clay-shale and the excellent preservation of plant remains, that more diligent collecting will uncover many such skeletons in the Latah formation of both Idaho and Washington.

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THE PROTECTION OF PLANTS

RECENT experience[1] shows that the effect of poison-sprayers (arsenic, copper, lead, etc.) is found to extend much beyond its immediate objective, namely, the protection of crops against parasitic attacks.

Apart from its inability to discriminate between friend and foe, this treatment represents in its cumulative poisoning action upon the soil a grave danger to future plant life both by (a) its inhibition of growth and (b) the introduction of toxic constituents into plant metabolism. A greater stress upon the augmentation of the plant's natural means of protection, such as sanitation, nutrition and stock selection, might perhaps lessen the recourse to these artificial protective means.

Now from the work of Greenbank[2] on the inhibition of rancidity in fats and oils (with a possible extension to cereals) by maleic acid, and that of Copisarow[3] on (a) the bactericidal and fungicidal properties of maleic acid, (b) the close chemical and physiological resemblance, if not identity, of maleic acid with the natural

6 *Nature*, 134: 536, 1934.

1 V. R. D. Kirkham and M. M. Johnson, *Jour. Geology*, 37: 483–504, 1929.

2 E. W. Berry, *U. S. Geol. Survey Prof. Paper 185*, pp. 97–125, pls. 19–24, 1934.

3 Oral communication.

1 Report of the American Society of Plant Physiologists, Western Section, SCIENCE, 84: 171, 174, 1936.

2 Greenbank, U. S. Pat., 1898, 363, Feb. 21, 1933; SCIENCE, 77: *Suppl.*, page 6, February 24, 1933.

3 Copisarow, *Jour. Pom. Hort. Sci.*, 14: 9, 1936.