collecting activity of diatoms and the high copper concentration in oysters, which feed largely on diatoms. It has been known for some years, for example, that oysters in the infant phase of their lives will not settle down and start growing shells unless there is a trace of copper in the water over their beds.

Dr. Paul Galtsoff, of the U. S. Fish and Wildlife Service's fisheries laboratory, expressed lively interest in a possible connection between copper in diatoms and copper in oysters. Oysters, he said, have a tolerance for copper far beyond their known physiological requirement for the metal. Some of the laboratory tanks with which he works have copper or brass fittings, and the oysters in them absorb so much copper directly from the water that they turn green. He added that oysters often have far greater quantities of zinc than of copper in their bodies, but nobody has yet found out what they do with it.

Science News Letter, June 28, 1947

PLANT PATHOLOGY

Blight-Resistant Potato Is New Variety Produced

➤ BLIGHT-RESISTANT potatoes, able to defy the fungus disease that ruins millions of bushels yearly and that a century ago caused famine in Ireland, seem at last to be realized. Dr. D. K. Reddick, Cornell University plant pathologist, has produced several new varieties by crossing cultivated potatoes with a wild species from South America.

In 1927, after ten years of vain search for an immune variety, Dr. Reddick broadcast an appeal through the press. A farmer in northern New York, Fred Ashworth, responded with this South American species, which he had imported in an effort to get a frost-proof potato and had found to be blight-proof instead.

Dr. Reddick found the South American potato worthless as a crop plant, but was able to hybridize it with good cultivated varieties in such a way as to produce a number of varieties that are expected to prove profitable as well as immune to the blight.

One of the new varieties he has named Ashworth, in honor of the man who gave him the South American parent strain. Others are called Chenango, Empire, Essex, Fillmore, Hartford, Madison and Snowdrift. Test lots of the new varieties are now being tried out at a number of experiment stations, including one in Costa Rica.

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CHEMISTRY

Rubber Fibrils Squeeze Out Drops When Stretched

➤ RUBBER DEPENDS for its elasticity on its ability to squeeze liquid droplets out of its micro-fibrillar structure when stretched. Other elastic substances have the same micro-structure, with minute fibers enmeshing a liquid.

This was one of the findings laid before members of the American Chemical Society in Palo Alto, Calif., by Prof. E. A. Hauser of the Massachusetts Institute of Technology and Dr. D. S. le Beau of the Midwest Rubber Reclaiming Company. In their research they used an ultramicroscope, which is a quartz-lensed instrument using short-wave ultraviolet instead of visible light. It does not give as high magnification as the electron microscope but on the other hand spares the specimen the destructive bombardment of the electron stream.

The same soap or other detergent that takes grease and dirt out of fabrics can help get otherwise insoluble dyes into them, Prof. James W. McBain of Stanford University reported to the American Chemical Society. Less than one per cent of a "solubilizing" detergent will help the dye to take hold. A similar phenomenon has been observed in nature, he pointed out, in the transportation of the insoluble vitamins A and K in the body fluids.

Associated with Prof. McBain in this study were A. G. Wilder and R. C. Merrill, Jr.

Science News Letter, June 28, 1947

ENGINEERING

Stream Pollution Costly Even If Waste Is Used

➤ INDUSTRIAL wastes or sewage which pollute a stream are costly, even when useful by-products such as fertilizer are recovered, Prof. George E. Barnes of the Case School of Applied Science told the American Society of Mechanical Engineers meeting.

More and more, industry can expect to have to bear some of the costs of this national problem, Prof. Barnes warned.

Polluting streams with wastes from industry runs up a bill of millions of dollars each year, he explained. The old idea, made famous by the French author, Victor Hugo, in his classic "Les Miserables," that recovering wastes such as sewage by chemical treatment can produce by-products to foot the bill is not true, Prof. Barnes declared.

The income from by-products of sewage and other industrial wastes will reduce the costs of stream pollution, but it will not pay the whole cost.

Stream pollution, the speaker explained, creates "indigestion or disease" of a river. The cure is expensive. Sewage must be treated. Sewage-borne solids must be removed or treated. When sludge, scum, grit or screenings are removed from the polluted stream, there is still the problem of disposing of this waste.

While there are standard treatments for sewage pollution of streams, Prof. Barnes said that industrial wastes sometimes create unusual problems. Such wastes from industry as oil, acids, cyanides or metals require special treatments.

In one state, Pennsylvania, alone, the estimated needs in industrial waste treatment plants have been estimated at $35,000,000.

The trend is toward industries directly bearing at least part of the cost of stream pollution, Prof. Barnes stated.

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