

Mercury Important in Control of Turf Diseases

By WILLIAM M. STIEH
Wood Ridge Mfg. Co.

MERCURY is used in so many diversified fields that a large group of people is affected by it. The average greenkeeper knows the various uses for mercury salts to control turf diseases, but in addition it is used agriculturally for soil disinfection and seed treatment.

About 300 B. C. Theophrastus mentions that they were actually able to produce



William M. Stieh

metallic mercury from cinnabar, an ore containing mercury, by pulverizing it and treating it with copper and ordinary vinegar. Reference also is made to the work of Callias, a Greek, who by a similar experiment in the year 415 B. C., produced the same results. Dioscorides and Plinius in the year 100 B. C. changed this process and by using an iron dish formed a primitive distillation apparatus; and with the use of heat were able to extract metallic mercury.

One of the first mercury mines discovered was in Almaden, Spain. This mine is still in operation today and is rated as one of the richest in the world.

History records a mine located in Peru which was destroyed and concealed by the Spanish in the early sixteenth century. In subsequent years, several expeditions were sent to Peru in an effort to locate this mine, but all were in vain. We understand that one Englishman expended in excess of \$5,000,000 to locate this deposit

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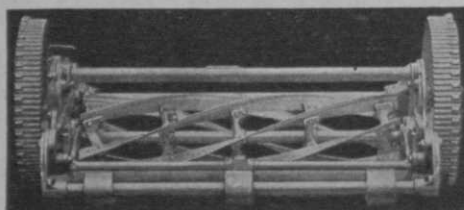
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of cinnabar with no result whatsoever. The Spaniards, believing that this mine would affect their world markets, completely destroyed all the paraphernalia except a huge still, which was shipped back to Spain and remained there in operation until a few years ago. Their disguise of the mine and destruction of equipment was so complete that up to the present day it has never been located.

Cinnabar, in certain parts of the world, is found on the surface, and depending on the direction of the vein has been mined at a depth as low as 1,800 feet. Spain still leads the world in the production of Mercury, but has done little or nothing until lately with the manufacture of salts, as they have found it more profitable to ship the metal.

**Import Duty Allows
American Mines to Compete**

Mercury, in its original state, is chemically called mercury sulphide. With the application of heat of about 750° F., the mercury passes off in a form of mercury vapor which is then run through a cooling system similar to a still, and the result is a liquid metal as it is commonly known. The metal is then packed in 76 lb. iron flasks and sold on the market as Prime Virgin, the form in which the manufacturers purchase their supplies. Uncle Sam, to protect the higher living standards in America, has placed an import duty on foreign metal of 25c per lb. This allows the American producers to compete with the foreign mines.

The first records of the production of Mercury Salts took place about the year 900 A. D. by a chemist, Al Geber, employed by the Moors. He found that by mixing mercury metal with sodium chloride (table salt) and by applying heat, he was able to sublime mercury bichloride, which was the first development of what greenkeepers now use, corrosive sublimate.

The process was improved. Chlorine was substituted for sodium chloride, and the present process is using one part mercury and two parts chlorine which forms mercury bichloride. This material is soluble in water and its chief use was as a powerful disinfectant and it still is used for the same purpose. Subsequent research work developed another product and it was found that by mixing one part metallic metal and one part chlorine, it produced calomel, an insoluble mercury salt, and it had certain properties and different actions than mercury bichloride.

Calomel can be taken internally in small quantities without the disastrous results caused by mercury bichloride.

Ordinarily when it becomes necessary to use a powerful disinfectant, mercury bichloride is foremost in mind; however, there are some objections and it cannot be used in each individual case. There are approximately 40 different and distinct forms of mercury salts.

Mercury history has been extended in the work done by Dr. John Monteith, Jr. of the USGA Green Section for the control of various turf diseases. The publication of his work is very complete in Volume 12, Number 4, August 1932 of the Green Section Bulletin, and covers many years of experimentation with mercury salts for that purpose. It is the writer's suggestion that everyone connected with the application of such materials should have a copy of this bulletin.

GOLF'S MARKET PLACE

Crawford, McGregor & Canby Co., Dayton, O., gives interesting details in its 1936 catalog of medal awards to members of the MacGregor Player-Craftsmen club, composed of workers in the MacGregor club plants and players on the excellent 9-hole course the company maintains for its employees. Many of the clubmakers have been in McGregor service for more than 20 years. Will Sime, designer of Bap woods, has been MacGregor's chief designer for 33 years.

The new "par" golf ball washer, after a year of experiment to eliminate every possible "bug," is now being shipped to dealers and courses, according to announcement by Par Golf Products, Inc., 410 Hanna Bldg., Cleveland, Ohio.

The Par brushes are of sponge rubber, and only one brush replacement a season is required, according to the manufacturers. One to three balls can be cleaned at once. The Par sells for \$8.50, or \$10.00, complete with mounting post. Special lower prices in quantities.

Penfold Golf Balls, Inc., new New York address is 11 Park Place, where they moved early this year. The Penfold golf ball, the only 100% pro-only line, offers pro rebates on the Penfold "75" and Penfold "50," which bring Penfold prices strictly in line.

Johnny Revolta has tied in with the PGA educational movement for the younger golfers, by designing a line of



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