BOOM!

On Wednesday, July 21, 1965, the roof began to fall in on good turf maintenance. The humidity began building up in the afternoon hours with the temperatures beginning to rise. By the next morning the early temperatures were already as high as they were the preceding day and they continued to rise until they hit 93 degrees. During the same period, the humidity also climbed to tropical extremes. This condition prevailed for two days and three nights with the end result of turf becoming sick and dying from our old enemy of last year, Pythium.

Our courses turned from almost perfect on Wednesday to almost dead on Sunday. This of course hit the fairways the hardest. Some of the finer courses with poa annua and Bent fairways which are watered frequently were hardest hit.

Let's hope that the humidity drops pretty soon so we won't get wiped out like last year. Temperatures on the South Side of Chicago never went below 68 degrees since the morning of July 21, as compared to temperatures at O'Hare which dipped as low as the upper 50's on three separate occasions during the same period. Temperatures must drop below 68 degrees to stop Pythium.

BIG CHANGE AT ITASCA

For years John Coutre, Superintendent of Itasca Country Club has been suspecting problems concerning his irrigation water in relationship to its source. He is obtaining his water from the Salt Creek which is adjacent to his course. After analysis he was amazed to find out that the water has been affecting his turf management program a great deal more than he even suspected. The turf always looked sick.

It was decided to investigate this a little further. After a close examination of materials and equipment available for treating his problem water the Club decided to purchase the equipment and materials necessary to purify his water. After installation, he noticed a marked improvement almost immediately. It is worth the time to drive over and see for yourself.

Here is a little more on this water problem as written by A. H. Smith, of Smith Equipment. He carries an ad in the Bull Sheet.

DISSOLVED MINERALS IN IRRIGATION WATERS

Surface waters from streams and waters from ground wells contain dissolved minerals and gasses obtained from soil contained deposits. Waters vary in amounts of elements accordinng to the particular location from which the water is obtained. Of the minerals, sodium is most caustic to plant tissue, and of the gasses, carbon dioxide presents the greatest problem in "fixation" of minerals to carbonate compounds. On exposure to atmosphere, the carbon dioxide picks up oxygen to form carbonates of mineral elements. As carbonates, the sodium, magnesium, calcium, etc. are precipitated as the water evaporates. The precipitates are water insoluble and not plant usable minerals. As such these "hardness" elements accumulate with each successive watering until a plant tolerance amount is exceeded.

Carbonate salts of minerals being water insoluble, have their greatest concentration in the top several inches of soil. As they tend to co-agulate and draw together, stratified layers of soil become cemented hardpans, that resist air and water infiltration and drainage. Slick spots and surface puddling result. Carbonates are corrosive to plant tissue and can

actually gnaw off roots and lower stem parts.

With intensively cultured plantings as golf course turf and greenhouse soils, a salin-alkaline amount of carbonate salts is possible in just twelve waterings of a virgin soil. In all areas dependent upon water of but a few grains of "hardness", the problem of retarded growth rate or plant loss is predictable. With ninety per cent of growing plants being watered, the ready ability to maintain tissue-water balance is essential and is achieved only by the quality of the irrigation water applied. Plants absorb soil moisture as a function of atmosphere pressure in direct ratio to total soil moisture stress. This action of osmosis is slowed or even reversed, when total moisture stress is high due to accumulated carbonate salts. This is seen as a "blueing", "yellowing" or "wilting" of grasses and greenhouse plants, even if soil is adequately moist.

TREATMENT OF IRRIGATION WATER

Efficient and economical treatment for eliminating and removal of carbonate salts in water and soil is automaticially possible with Release, Irrigation Water Treatment metered into main pipe flow by Syncro-Flo Automatic Irrigation Injector. This method presents the highest efficiency and most feasible means for treating of irrigation waters. By precise injection of Release, carbonates are chelated from the minerals, allowing plant use of these nutrients. Surface tension of the water is lowered and total soil moisture stress is reduced to allow water soil penetration. The released calcium displaces the absorbed sodium on soil particles providing leaching ability of the sodium out of the root zone; the dissolved carbon is carried down in the drainage water. Plant growth improvement is soon apparent as the rain like quality of the amended water is provided. Each water should be individually analyzed to determine the degree of treatment required. The average midwest water requires but one gallon of Release to treat 9,000 gallons of raw water. The cost is approximately twenty cents per 1,000 gallons of amended water.

The unit is installed directly into the main irrigation pipe line, near to water supply. The unit is complete, no buffer tanks or auxillary power is required. Syncro-Flo is hydraulically operated, automatic and synchronous in response to water flow rates. Precise and fool-proof degree of injection is accomplished, regardless of water pressure fluctuations, flow demands or surges. No reduction of water supply pressure is made and full volume as before installation is enabled. It provides up to flow rates of 500 gallons per minute, more than one unit may be used for higher flow demands. One filling of Release provides 200,000 gallons of treated water. Back flushing is never required. Refills in ten minutes.

NOTE: Release Water Treatment is non-corrosive to iron or copper pipe, or brass or bronze valves and sprinklers, at all rates of treatment.

NOTE 2: This method recommended is not to be confused with sodium salt water softeners, which should not be used in irrigation treating.