

Work with this strain will be interesting the next few years. An interesting characteristic noted this past winter was the deep purple shade in the cold weather.

EXPERIMENTS HALTED BY HARD TIMES

IF THESE times were bringing us more money for experimental work, I should like to experiment with some strains which can be detected in a planting I have of Prince Edward Island velvet bent, now some three years old. Some of these strains look promising, and might produce an interesting result. However, money is tight at present with most of us, and we must confine our nursery work to the essentials of growing the sod needed.

Herein lies another satisfaction, in that the experimenting through the years when there was money available has given us the knowledge of what to grow for success, and now that money is scarce, it costs little to have a fine nursery of desirable sod for use on greens and elsewhere.

I hope that this report of our nursery work has not sounded too expensive. Our average expenditure over the past five years has been under three hundred dollars, and this is not excessive when it is remembered that we have averaged nearly ten thousand square feet of sod in our nurseries in that time. In addition, the value of the knowledge gained from the nursery is of uncalculated worth to us.

Turf Conditions In Arizona

By PAUL ADDESSI, *Greenkeeper*

Arizona Biltmore Golf Course, Phoenix, Arizona

IHAVE just completed a very interesting soil test of the Arizona Biltmore golf course, which may prove to be of some help to the boys of this district.

Upon my arrival at this course a comparatively short time ago, I was led to believe that this land was all alkali in nature. At first sight I thought it was black alkali, but in taking soil tests I found it calcium chloride, a deliquescent salt, which absorbs moisture from the atmosphere keeping the surface soil moist and giving it a dark brown color which is often attributed to black alkali.

Black alkali is the most harmful of the alkali salts that I know of and land affected by it is very hard to reclaim. It can be reclaimed, however, by applications of gypsum or sulphur which is the best in leaching and removing the salts.

When gypsum or sulphur is used it will react with the carbonate and changes it to white alkali. After you have done this it is much easier to reclaim the land.

ARIZONA WATER IS ALKALINE

IT IS true that our water to a certain extent is alkaline. Tests which have been made shows the water that we use from the canals to have a small amount of alkaline which isn't enough to be harmful, providing you have proper drainage.

I have found from my past experiences that proper drainage is the backbone of a good golf course, especially in stony loams or what is known here as caleccia.

This caleccia reminds me very much of volcanic slide. When you do not have proper drainage you will see

the effect of the alkali in the low places where irrigation water stands. When this water evaporates it leaves the alkali there and these salts gradually accumulate until the quantity is sufficient to become harmful.

Bermuda grass is commonly used for a summer turf and a variety of winter grasses is sown for the few winter months. This is an absolutely needless expenditure.

BERMUDA GRASS IS A NUISANCE

BERMUDA grass in my estimation is a nuisance on a golf course because it is a self-seeding and a creeping grass. It is very difficult to keep it out of the greens and sand traps. It is my opinion that fine-leaved fescue, hard fescue, sheep's fescue, Canada blue or any of the many varieties of grass which are resistant to cold and tolerant of heat can be successfully grown if the soil is properly conditioned and you have an efficient drainage system and you irrigate moderately.

It is generally believed here that poor soil and the extreme heat of the summer render it impossible to grow a year-round turf. It requires knowledge. Not only from a book, a magazine or college, but from years of practical experience to grow any turf. What I mean by turf is not a sprig of grass here and a bunch there. Any man can sow any variety of seed and if it has any chance whatsoever we all know that a certain per cent of the seed will germinate but that is only a start—not turf.

The climate and soil here perhaps do make it more difficult to grow a good year-round turf, but it does not make it impossible. It merely requires more than ever knowledge and experience.