

Bermudagrass Found World-Wide

by W. R. Kneebone*

Wherever man has gone, in tropical, sub-tropical and warm temperate regions of the world, bermudagrass has gone also. It springs up along man's trails, on his rubbish heaps, in his corrals, and across his fields. It is a familiar and feared weed with names like quick and devil grass to describe its weedy activities.

It is also a very important forage, one of the best grasses for erosion control, and the most important turf grass in warm climates around the world. Its distribution not only goes around the world but is amazingly wide from north to south.

In North America, bermuda has been reported along the coasts as far north as Vancouver in the west and New Hampshire in the east. It grows in Michigan and Ohio, and has been known in Pennsylvania since at least the early 1800's.

It is found in Argentina and Chile, in South Australia and Tasmania. In central Russia it is found in the deserts around the Aral sea.

A "Southern Bluegrass"

In the United States bermudagrass is to the South what bluegrass is to the North. Both are very similar with their foreign origin and their complete acclimatization in so many new areas. To fully describe bermuda would take a combination of bluegrass with quackgrass, however.

Bermuda keeps spreading out and expanding its range, with or without the help of man. As an illustration, in Kansas Bulletin 2, published in April, 1888, E. M. Shelton reported on grass trials, including plantings of bermudagrass and Johnsongrass, on the Agronomy farm near Manhattan over the previous 14 years. In his notes for 1882 he observed that these "would be dangerous pests but for the fact that they kill down to the frost level every winter". Obviously

neither species had adapted types there then. Today, Johnsongrass and, to a much lesser extent, bermudagrass grows well up into Nebraska and Iowa.

My research program at Arizona is aimed at producing seeded varieties which will make not only good turf in the traditional "bermuda belt" but will be hardy in the "crabgrass belt" from here across to and up the Ohio valley. The potential is there to be exploited, and of course our program is supported by seed growers who want to sell better products and more of them. Incidentally some of the present best quality seed sold commercially today is certified Arizona common bermudagrass.

This matter of potential is one of the most interesting things about bermudagrass. The three W's — Wordly, Wily and Wonderful, provide convenient pegs on which to tie together a mass of what are interesting features of this paragon of weeds.

Obviously, in the matter of distribution, bermudagrass has gotten around and for a long time. It is *Worldly*. Now worldly grasses and worldly people were not born that way. They had to start somewhere and work at it. Where and when did our hero start? It is a difficult thing to trace plants historically because, for one thing, historians are often more interested in costumes than botany and both are beneath the dignity of a genuine social, political or military historian. Only if the plant has some special social significance is it noted. (This often does *not* mean food although in these days of population explosion demographers are somewhat more aware of its importance.) With bermuda we are lucky. It has some special attributes. (Haven't I said it was wonderful?) It is an ancient sacred grass in India and it has long been used medicinally.

Noted Early In History

So far as I know, the first written mention of a specific grass other than the food grains mentioned in cuneiform tablets and Chinese ceremonials, is in Vedic Sanskrit in the Rig Vedas, recorded about 2,000 B.C. It is the sacred durbha grass used in sacrificial ceremonies and "without which the cattle would perish".

The common Hindi name today is *doub* and Indian seed occasionally is sold in world trade as *doubgrass*. As *doubgrass*, it is used throughout the east for erosion control and turf. Since the Vedas were written by Aryan invaders of India who came from the Northwest they may have made sacred the bermudagrass of Afghanistan and Persia and Central Russia. At present these areas appear centers of origin of the giant bermudagrass we have in our Arizona seed areas, and fight so strenuously to keep out of our certified common. It would be interesting if the original sacred grass was giant, with the finer, leafier, more turf-like Indian common, only acquiring the sacred label secondarily. Our Arizona common and the usual Indian common are very similar and quite in contrast with giant.

Most of our common bermudagrasses in the United States are also like the Mediterranean types. Since much of our western civilization is centered on Mediterranean backgrounds this is not surprising. Nor is it too surprising that it is here the next earliest historical mention to the Vedas is found. The earliest date I have yet uncovered is 900 B.C., in Homer's writing, when bermuda, as it can, took over land belonging to one of his heroes. Aristotle is said to have mentioned it and Theophrastus uses bermudagrass as an example of rhizomes at about 300 B.C.

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Recreation . . .

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Two activities show a decrease in occasions per participant, Driving for Pleasure and Horseback Riding, but the changes are very small and could be due to sampling errors. For Picnicking, Sightseeing, Swimming, Camping and Waterskiing there have been fairly large increases in occasions per participant. Some of the reasons for this could be; on the supply side, more and improved facilities; and on the demand side, more leisure time, interest, experience, and higher incomes.

The actual annual average growth for the 1960-1965 period has exceeded the projected annual average growth in participation for all activities except Driving For Pleasure. Large differences between projected and actual growth have occurred for Walking for Pleasure, Picnicking, Camping and Sightseeing. It is interesting that ORRRC, in their projections with an assumption of an increase in supply, assumed there would be no change in supply for Walking for Pleasure. Thus, the conclusion of a shift in demand for that activity is strengthened. There is no doubt that the total physical supply of facilities for picnicking and camping has increased over the 5-year period, but it is not known whether there has been a per capita increase.

Conclusions

The changes shown are interesting, but very little can be said about why they occurred. It is very probable that



Douglas
KAWT Livestock Report, 6:20 a.m. and 12:10 p.m. Monday thru Saturday.

Phoenix
KOOL Garden Show, 8:45 a.m., Saturday.

KOOL Farm Report, 5:40 a.m., Monday thru Saturday.

KOY Farm Report, 6:50 a.m., Monday thru Friday, and 6:55 a.m. Saturday.

KPHO Farm Program, 5:45 a.m., Monday thru Saturday.

KTAR & KTAR-TV, Farm, 5:55 a.m. Monday thru Friday.

KUPD Farm, 5:50 a.m. & 12:28 p.m. Monday thru Friday.

Town & Country Life Conference

It's a bit early, folks, but Miss Jean M. Stewart reminds it's time to start making plans to attend the annual Town and Country Life Conference.

The dates are June 3 through 7. The place is the University of Arizona campus in Tucson.

Some 400 women and some men participate in the conference each year, and the people come from all 14 of the state's counties.

"Everyone is invited," says Miss Stewart.

Commenting on past conferences, she said, "most of the women tell me they come to learn, to get a break in their homemaking routines, and to make new friends from all parts of the state."

She urged that persons interested

in attending, men and women alike, contact the Cooperative Extension Service office in your county.

The list follows:

Apache — Miss Viola Koenig, St. Johns, 85936. Cochise — Mrs. Mildred Marrs, 112 E. Maley St., Willcox, 85643. Coconino — Miss Peggy Putnam, P. O. Box 790. Flagstaff, 86001. Gila — Mrs. Mary Kay Simons, Globe, 85501.

Graham — Mrs. Darleen Kurtz, Safford, 85546. Greenlee — Miss Nancy Prugel, Duncan, 85534. Maricopa — Miss Edna Weigen, 1201 W. Madison, Phoenix, 85007. Mohave — Mrs. Audrey Davies, P. O. Box 1111, Kingman 86401.

Navajo — Mrs. Ina Ward, Holbrook 86025. Pima — Miss Lee McGoogan, 112 W. Pennington St., Tucson 85701. Pinal — Miss Shirley Weik, Casa Grande 85222. Santa Cruz — Mrs. William Hagler, Nogales 85621. Yavapai — Mrs. Katherine Brittingham, Prescott, 86301. Yuma — Mrs. Helen Wissner, 1047 Fourth Ave., Yuma 85364.

the growth in participation in Walking for Pleasure shows a shift in demand because of its freedom from specific facility requirements.

The BOR report implies that these data show an increase in demand, pressure on recreation facilities and resources, and a need for more facilities. This conclusion cannot be drawn from the information in the report since no information is presented on how the number or quantity of facilities has changed (a general increase has occurred) over the five-year period. The data in the report cannot be used to justify the provision of additional recreation facilities.

Participation in outdoor recreation activities will probably continue to increase as long as additional facilities are provided, given population growth, since entrance fees are so low as to be an insignificant portion of the visitors' total cost, as well as below the costs of providing and maintaining the facilities.

This increasing participation, then does not show a "need" for more recreation facilities, but shows the large quantity of recreation demanded at low prices for the existing physical supply of facilities. The question that should be answered is do we wish to continue to subsidize nonurban outdoor recreation activities at present levels. In order for the general public and policy makers to answer that question, explicit information on the public costs of providing alternative levels of facility supply is needed together with reasonable measures of the value of outdoor recreation experiences and resources.

Bermudagrass . . .

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To Honor a Hero

One writer suggests that the grassy crown placed on the head of one Siccius Dentatus, Roman tribune in 454 B.C. for 120 battle victories, was made of bermudagrass. The runners of bermuda would be handy for such construction and were used this way in at least one other Mediterranean area. A French archeologist named Bonet, digging among some first century tombs in Egypt about 1900, found a leafy crown around the head of a female "magician". Part of this crown was bermudagrass. In the same tomb were preserved vases of plant material, again including bermuda. Since Dioscorides describes bermuda in the same century as a medicinal plant, the lady magician probably used it in the same way. Relief of the bellyache or of kidney stones is a very wonderful piece of magic!

Dioscorides' description lists common names from the full circle of the Mediterranean showing beyond doubt that bermuda was then found everywhere in this area.

Bermuda spread into Europe from the Mediterranean. For example there is bermudagrass growing along the coasts of Cornwall, probably brought there accidentally by Greeks and Phoenicians mining tin well before the Christian era. An English botany book published in the 1840's describes the Cornish bermuda as a "very pretty grass, of no practical use". We know better don't we?