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COLONIAL BENTGRASS BREEDING

DEPARTMENT OF SCIENTIFIC & INDUSTRIAL
RESEARCH - NEW ZEALAND

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The original aim of this project was to breed a cultivar of Colonial bentgrass [Agrostis capillaris] entirely within New Zealand, but suitable for use in the USA. The resulting cultivar would hopefully require much less water and maintenance than those currently available in the USA, but still be attractive and persistent.

The project took the pragmatic approach that if such breeding material was to be found in New Zealand, it would probably be on sites such as unirrigated, low-input fairways of golf courses in hot, dry regions. Accordingly, a large collection of plants was made from such sites in 1987, and a smaller, but more selective one in 1988. These materials are now being evaluated at Palmerston North under both sward and flowering conditions. Data are being collected which we hope will lead to a selection, progeny-testing and seed increase to provide a candidate line for the next National Evaluation Series for Bentgrass in the USA.

This original program is up to schedule. However, we have now made two modifications which should improve the end result, expand it and hasten it: 1] an interim selection has already been made, and the separate 107 progenies were sent to a collaborator in the USA in 1989. It will allow screening for tolerance to USA diseases and climate stresses. It will not delay the timing of final selections, but should allow extra [and very important] data to be taken into account as well, and 2] about two years ago, we suggested that Dryland bentgrass [A. castellana] be added to the project, since it has some natural advantages over Colonial bentgrass in dry situations [and some disadvantages too]. After viewing the collected material however, it was felt that an existing DSIR selection of Dryland bentgrass was already superior. With some slight breeding modification, it has been seed-increased and inserted into the 1989 National Evaluation Series as a DSIR-USA candidate.

Final Note: The evidence collected during my 1986 period in California, and from the subsequent golf course collections through New Zealand, suggests we should not expect any Colonial bent selection to be as tolerant of heat, or drought, as might be desired. It seems instead that in consistently dry conditions, Colonial bent tends to be replaced by Dryland bent.

This justifies our approach of breeding projects in both species. It would be easy to envisage that both cultivars are marketed,

preferably in blends for marginal sites. The proportion of either species in the blend would relate to the site characteristics. Quite apart from the extra drought-resistance Dryland bent would give to the blend, the two selections should compliment each other in seasonal color. Dryland bent is always most attractive in winter; Colonial bent in the warmer season.