

RICE GRASS: ITS DUAL UTILITY*

ECONOMIC VALUE OF STRANGE PLANT

RICE grass, *Spartina Townsendii*, now world famed largely as a result of the interest of the Empire Marketing Board in its possibilities, first appeared in 1870 as a strange grass along the shores of Southampton Water. Its origin is obscure, though one theory holds it to be a hybrid between an American plant brought over accidentally and the English cord grass, *Spartina Stricta*; but as a new means, first of reclaiming marsh and other tidal lands and preventing coast erosion, and second of feeding livestock, its potential value is hard to estimate.

The grass grows extraordinarily fast and can stand up to three or four feet of sea water over it at every high tide. Within a few years of its introduction it had spread over the Southampton estuary and made its way along the coast to Poole Harbour, Dorset, firmly establishing itself among the mud flats there. Its long fibrous roots bind the mud and consolidate the land, helping it to retain the silt carried along by the river or sea tides. By the tenacity of its root system it forms a protective buffer over sea walls against the ravage of heavy seas.

The economic possibilities latent in these qualities were pointed out by Professor Oliver, of London University, in 1920, and in 1925 Mr. James Bryce, of the East Anglian Institute of Agriculture, Chelmsford, began experiments. The results attained came under the notice of the Empire Marketing Board, which made a grant to the Institute two years ago, again illustrating the vision with which it has encouraged developments and research of economic importance to the Empire, along whatever lines.

The East Anglian Institute has established sixteen colonies of rice grass in its area and many farmers whose lands run down to the sea or extend over parts of the mud flats of Essex are growing small areas both as a reclamation measure and as feed for livestock. On the Salvation Army farm at Hadleigh, Essex, where boys are trained for settlement in Canada and Australia, fourteen acres have been planted on a strip of land that is covered by high tides. Another centre is being established at Goldhanger on the estuary of the Blackwater River, Essex, in order to protect and recover a large area of land abandoned by a recent breach of the sea wall. In Essex alone there are reputed to be 30,000 to 40,000 acres of mud flats capable of transformation into grazing pastures. In this task of reclamation the Institute is stimulating the use of rice grass. In Holland large areas of it are being successfully grown from seedlings supplied from Poole Harbour, and the plant is being used in the Dutch reclamation scheme in Zuyder Zee where it is estimated that it saves ten years' ordinary reclamation work.

* From *Empire Production and Export*, No. 163, March 1930.

An export business began in 1924, when large quantities of the grass were exported from Poole Harbour to Holland for experiment. An astute fisherman, realising that money could be made from the seedlings, established a monopoly of the export from Poole, which until last year remained almost the only export area. Besides Holland, seeds or seedlings have now been sent to Portuguese West Africa, and within the Empire to Australia, New Zealand, South Africa and the Federated Malay States. Enquiries have been received from Newfoundland, Egypt, South America and the United States of America. Though today the plant is available in many parts of the Empire and foreign countries, its outstanding successes have been obtained in England and Holland.

The value of rice grass as stock feed can only be decided by extensive tests which will shortly be made in East Anglia where, however, it has successfully been made into hay for winter feed. Sheep which were fed on rice grass last summer appeared to thrive on it. Pigs are said to regard it as a delicacy; the Empire Marketing Board quotes instances where pigs, in order to feed on the grass, swam a narrow neck of water to an island on the Thames estuary, where Mr. Norman Angell, the economist, is growing the plant extensively.

TRANSPLANTING FRUIT TREES*

THE transplanting of partially developed fruit trees is seldom attempted on account of the risk of failure and the trouble entailed in endeavouring to retain sufficient fibrous roots to ensure a reasonable prospect of success. Trees up to five or six years old, where subject to the necessary preliminary treatment, cannot only be removed without risk of failure, but transported satisfactorily over long distances. It will be recognised that the sustenance of the plant is absorbed by the small or fibrous roots in the immediate vicinity of their terminals, and by inducing a profusion of these within a short radius of the stem the chances of failure are practically nil. A profusion of small roots may be ensured by cutting through at the desired distance from the tree (15 to 24 inches, according to the size of the tree) all roots to a depth of 18 inches. In so doing a trench is made around the tree, and the ends of roots carefully pared if the cutting has not been "clean." The trench is then refilled with soil containing a good supply of humus, and in about three months' time the original root ends will have developed a good supply of fibres. At the time of removal these are not interfered with more than can be avoided, the necessary excavation for removing the tree from its original position and severance of any lower roots being made beyond the terminals of the young root growth. The head of a large tree should be materially shortened at the time of removal. The cutting of roots in the first instance should be performed when the tree is in a dormant state; in the case of citrus, conditions are generally favourable about March: Tropical varieties handled in this manner can be removed at almost any time after sufficient roots have formed and hardened, and may be first treated at any time of the year at the period known as "between growths."

* By Geo. Williams, Director of Fruit Culture in the *Queensland Agricultural Journal*, Vol. XXXIV, Part 1, July 1930.