

UPTAKE AND INCORPORATION OF  $^{35}\text{S}$  INTO CARRAGEENAN AMONG DIFFERENT STRAINS OF CHONDRUS CRISPUS

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Introduction

Chondrus crispus is the primary source of the commercially important sulfated polysaccharides kappa and lambda carrageenan. These phycocolloids, along with iota carrageenan, form the basis of a multi-million dollar carrageenan industry. Although a considerable amount of information is available on various aspects of the chemistry (1-4) and production-ecology (5-7) of carrageenan, little is known about its sulfation (8,9) or cytological localization (10,11). A preliminary report by Loewus et al. (8) demonstrated the incorporation of  $^{35}\text{S}$  into KCL-soluble and-insoluble fractions of carrageenan. More recently, Jackson & McCandless (9) suggested that the rates of sulfate uptake in C. crispus were similar in haploid and diploid plants from a given area cultured for a similar time, while plants from different sources showed varying uptake and incorporation rates.

In the present account, we describe the uptake and incorporation of  $^{35}\text{S}$  into carrageenan among several strains of Chondrus crispus having different growth rates and carrageenan yields (12). Although our results are preliminary in nature, they suggest that  $^{35}\text{S}$  uptake rates may reflect the relative growth status of a plant and be potentially useful in screening fast-growing strains for mariculture.

In addition, the localization of  $^{35}\text{S}$  incorporated into Chondrus

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