be noted that seaweed itself performs the majority of the conversion and only a small remaining fraction, if any, is converted during alkaline treatment.

We are also concerned that reclassifying carrageenan on the National List under 205.605 (b) raises questions about consistency of allowed non-synthetics on the National List. Because several other substances extracted using hot alkali processes are currently listed at 205.605 (a) (including Dutch chocolate, pretzels and soap), we see no precedent for relisting carrageenan as synthetic. Furthermore, the carrageenan extraction process is used to increase yield, not alter the product. This is consistent with other chemicals allowed in organic production such as the use of ethylene, which is permitted in organic pineapple farming to increase yields and speed fruiting (National List 205 605 (b)).[1,2] Due to these consistency questions, we encourage the NOSB to develop criteria to determine what constitutes a synthetic vs. non-synthetic substance, before enacting changes to substances on the National List.

Furthermore, carrageenan is a unique hydrocolloid with respect to origin, its protein interaction, and its gelling, suspension and thickening abilities. Thus, no single alternative exists to which producers could turn to ensure consistency of their food products at such broad ranges. Additionally, carrageenan has synergy with some gums in its gelling ability and texturizing ability. Many finished food producers rely on complex hydrocolloid formulations, which include carrageenan, to ensure that their products display the specific, consistent qualities their consumers demand. Carrageenan forms gels in numerous food systems, which remain stable over a wide pH range relevant to various food products. They are thermo-reversible and can be turned from hard and brittle to soft and elastic. Moreover, carrageenan has unique protein interactions e.g. dairy proteins, which are utilized in countless food products. Reclassifying or delisting carrageenan when no alternative exists could jeopardize the ability of producers to bring a consistent product to market and threaten consumer access to the products they desire.

Agar-agar:
Agar-agar is a seaweed-derived hydrocolloid that provides stability against freezing and thawing in many food applications. Agar-agar has stronger setting properties than gelatin and can serve as a substitute for gelatin to meet certain dietary needs. It can also enhance the milky property of ice cream and chocolate milk.

IFAC supports the Handling Committee recommendation that agar-agar be relisted on the National List at 205.605 (a), nonagricultural (nonorganic) substances allowed as ingredients in or on processed products labeled as “organic” or “made with organic (specified ingredients or food group(s)).” We also support the Handling Committee’s recommendation for an additional listing of agar-agar at 205.605 (b), synthetic substances allowed as ingredients in or on processed products labeled as “organic” or “made with organic (specified ingredients or food group(s)).” Again, we encourage the NOSB to develop criteria to determine what constitutes a synthetic vs. non-synthetic substance.

Cellulose:
Cellulose is one of the most abundant organic substances on earth. Most commercially available cellulose is produced from wood pulp or other plant sources through a delignification process that results in sufficient chemical change to render the substance synthetic. Cellulose is primarily used in food applications as a filtering aid, as a component of processed meat casings, and as an anti-caking agent. While the production of non-synthetic cellulose is technically possible, no commercial sources of non-synthetic cellulose are currently known.

---

[1] http://www.ocpro.ca/docs/Newsletters/Summer%202011%20Newsletter.pdf
[2] http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELPRDC5067073