A SPECIAL ALL-DIGITAL ISSUE

SupplySide®

Omega-3 INSIGHTS

VOLUME 4 ISSUE 3 April 2015

# Krill

## Sustainably Harvested, Nutrient-Dense

- Historical Overview
- Sustainability Roundtable
- Practitioner Opportunities

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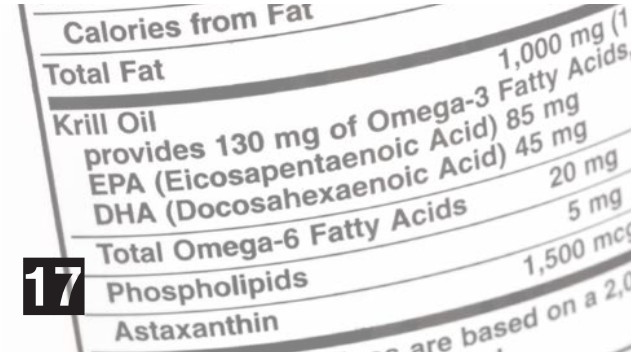

# Krill's Evolution & Future Opportunity

**When I think of krill,** many thoughts come to mind: cold (Antarctic harvesting – brr), omega-3s, bioavailability, patent issues, sustainability, market opportunity, etc. Through the last several years, krill has been in the news, both from the business press and consumer media, as reporters have looked at considerations such as the sustainability of the krill fishery, studies around the bioavailability of the omega-3s in krill oil, and discussions on the health effects of not only the omega-3s but the related compounds within krill oil.

In this issue of *Omega-3 Insights*, I learned a few new things about krill—and not just that you can make them into a "krill burger." In his historical perspective of the krill space, John Kilpatrick takes a trip back into the 1950s, and offers insights on the changing harvest, management techniques and understanding of krill's unique position in the omega-3 market. Furthermore, the sustainability roundtable brought out different points of view, all of which illustrate the lengths to which responsible industry is going to ensure the continued health of what many do consider the most sustainable and responsibly handled fishery.

Ultimately, the issue comes down to the need for more education in the industry, in the broader consumer market and even among health care professionals. In fact, the third article in this issue offers insights from a survey conducted by *Holistic Primary Care* in conjunction with Aker BioMarine. The findings definitely call out the interest of practitioners in not just dietary supplements, but omega-3s specifically. The big gap appears to be in their understanding of sourcing and options for their patients. And with health care providers situated as major influencers of consumer purchasing behavior, education into the channel could have major impact.

Best regards,

Heather Granato
VP Content, Informa Global Health & Nutrition Network
*heather.granato@informa.com*

*@heathergranato*

# Antarctic Krill—
## The Ultimate Marine Nutraceutical?

***by John Kilpatrick***

On **Dec. 24, 1956,** as a young chemist at the Leith Harbour whaling station on the sub-Antarctic island of South Georgia, I consumed what may have been the world's first krill burger—under the influence of a blend of Drambuie and St. Hallvard liqueur, with the enthusiastic support of a congenial group of Scots and Norwegian whalers, and the inimitable Duncan Carse, the explorer and actor who made the first detailed maps of the island. I believe the pre-Christmas dinner snack was his idea! The Leith Harbour whaling station was owned and operated by Chr. Salvesen and Co. of Leith, Scotland. I have never really escaped from the spell of krill, marine oils, and remote and wild places.

Antarctic krill is one of more than 80 species of euphausiids. The most important of these are the Antarctic krill (*Euphausia superba*) and Pacific krill (*Euphausia pacifica*). *Euphausia superba* has been claimed to be the greatest biomass on earth, at somewhere from 200 million to 750 million metric tons (MT).

The Antarctic krill fishery is almost certainly the most sustainably and conservatively managed fishery in the world. Management is according to the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR). A new Antarctic Treaty was signed on May 20, 1980, and came in to force on April 7, 1982. The original 12 signatories have now been joined by an additional 34 nations.

The decision-making body of CCAMLR is the Commission, with headquarters in Hobart, Tasmania. The Australian Antarctic Division is also headquartered there. Policing of the fishery involving on-board international observers, GPS technology and real-time monitoring includes assuring minimal by-catch.

The largest krill catch ever taken was in excess of 500,000 MT in 1981-82. This fishery was dominated by countries of the East Bloc, led by the USSR, and was destined for human consumption. With the collapse of the Soviet Union, the total catch reached a low of about 95,000 MT in 1993-94. With the advent of the omega-3 revolution and new entrants to the fishery, catches are now approaching 220,000 MT, and world production of nutraceutical krill oil is approaching 1,000 MT.

In 1956, the world production of baleen whale oil was 375,000 MT, much of it of nutraceutical quality. The Leith Harbour shore station, operating with seven catcher vessels, produced 10,700 MT of baleen whale oil. The factory ship

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*Southern Venturer*, operating with 12 catcher vessels, produced 20,000 MT of baleen oil, and the "pirate" factory vessel *Olympic Challenger*, owned by the Greek tycoon Aristotle Onassis and registered in Panama, operating with 16 catchers, produced 24,400 MT of baleen oil.

The highest production ever recorded was 612,000 MT in 1931. Of course, all this oil was produced by predation on krill. Now, the major predators are seals, penguins, the recovering whale population and man.

The omega-3 revolution started in the early 1970s, with the work of Jørn Dyerberg *et al* in Greenland. They found that Eskimos with a diet including a high proportion of marine mammal blubber had a remarkably low incidence of cardiovascular disease, and they had elevated bleeding time. They compared their results with Eskimos consuming a typical Scandinavian urban diet in Copenhagen. Their first significant paper was published in 1978 in *The Lancet*.

Since that time, thousands of scientific papers have been published. Many investigators have looked at the special characteristics of marine oils where the essential long chain unsaturated omega-3 fatty acids—most importantly eicosapentaenoic acid (EPA, 20:5 n-3) and docosahexaenoic acid (DHA, 22:6 n-3)—are carried on a phospholipid (PL) backbone in contrast to ordinary pelagic fish oils where the fatty acids are in triglyceride (TG) form. In contrast to TG oils, phospholipids have two fatty acids linked to a phosphorus group that is easily miscible with fats, allowing superior transfer in to the blood stream and across blood/brain barrier and the blood/retinal barriers by a factor of up to five. This has led to label claims or label displays of "better than fish oil" and "compare to fish oil."

Now, the major krill predators are seals, penguins, the recovering whale population and man.

Of the marine phospholipids, those of krill oil are dominated by phosphatidylcholine (PC) and phosphatidyl ethanolamine, with a smaller amount of phosphatidylserine (PS). All of these, of course, are complexed with EPA and DHA.

In the case of both the fatty acids and the phospholipids, after thousands of published scientific papers, new science is focusing on specific characteristics of both the fatty acids and the phospholipids. In these cases, claims are also

being made before the science is fully explored. Thus, EPA has been linked especially with cardiovascular health, while DHA has been claimed to have special properties related to cognitive health.

Of the phospholipids, PS has been linked to cognitive health. Krill has sometimes been supplemented with PS derived from soy.

Since the initial sales of pure krill oil, we have seen a whole "spectrum" of marine oils develop. These are often modified, especially with algal astaxanthin, and blended with TG fish oil. In this case, it is common practice to have the word "krill" highlighted where "fish oil blend" is less prominently printed or downsized.

Astaxanthin is often referred to as a "super antioxidant," many times more powerful than vitamin E. The point is also made, quite legitimately, that the astaxanthin also acts as an antioxidant, preventing oxidation (rancidity) of the essential fatty acids (EFAs).

With the emphasis on the effect of astaxanthin, label claims are made for the astaxanthin content. This may be increased, without declaring, by algal astaxanthin. In unmodified krill oil, label claims vary from a high of 1.5 mg per gram, to a low of 0.4 mg.

In cases where astaxanthin is not declared, one may assume the producer is not proud of its astaxanthin content.

In cases where astaxanthin is not declared, one may assume the producer is not proud of its astaxanthin content. In this regard, blends of krill oil with added astaxanthin are offered to adjust the label declaration of astaxanthin. In the total marine oil market, there are label claims from a high 1.5 mg per 1,000 mg of krill oil, to as low as 2.5 mcg (0.002 mg) in some salmon oils—a factor of 750 times!

More than a century ago, salmon head oil (of excellent quality) was used to enhance the quality of low oil salmon. This was declared on the label (I have one from 90 years ago from a packing company in Astoria, Oregon). The world's leading canned salmon brand, John West showed "Rich Red Oil" on their labels. The first vessel of today's krill fleet was launched in 1997 to catch and process jack mackerel off Chile into surimi, but the Chilean government

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refused to license the vessel, and it became the first krill factory trawler. Even today, the krill shells are not utilized, although chitin and chitosan can be produced and have humanitarian and nutraceutical uses. Of the present fleet of krill factory trawlers, only one is a true "floating nutraceutical factory."

The responsibility of producing only krill products for human consumption or nutraceutical use is part of the MEUFFP philosophy, first developed in 2011. The acronym MEUFFP was originally used for the Kyoto conference organized by the Japanese Fisheries Research Society. The letters represented the topic, "More Efficient Utilization of Fish and Fishery Products." In its new iteration, the letters represent "Maximizing Ethical Utilization of Fish and Fishery Products."

The ultimate aim of MEUFFP is to assure that 100 percent of harvested fish is utilized for human consumption, with priority for nutraceuticals.

In conclusion, the benefits of krill oil and krill products are well established. It behooves the industry to assure purity and accuracy of labelling, preferably supported by a seal of approval, which ideally would be issued and policed by the Global Organization for EPA and DHA Omega-3s (GOED). ❑

*Since 2006, John Kilpatrick (kilpatrick.js@gmail.com) has operated an independent consultancy. In the previous half century, he had three seamlessly linked careers, working in technology and business development positions in Antarctic whaling, Pacific whaling, capture fisheries and aquaculture. A focus of the aquaculture positions was raw material sourcing, with special emphasis on fishmeal and fish oil. Kilpatrick worked six years for Chr. Salvesen in Scotland and Antarctica, 26 years for British Columbia Packers in Canada, and 18 years for BP Nutrition/Nutreco in Canada and The Netherlands.*

*The independent consultancy incorporates aspects of all the previous careers, but is focused on marine nutraceuticals and, most importantly, humanitarian projects maximizing the potential of using living marine resources to feed the 9 billion projected global population in 2050. With Emeritus status in the American Oil Chemists Society (AOCS) and the Institute of Food Technologists (IFT), Kilpatrick is no longer accepting consulting projects except on a pro bono basis. Such advisory assignments are especially welcome when they are relevant to the current MEUFFP philosophy.*

# Krill Sustainability ROUNDTABLE

*by Karen Butler*

**Companies within the krill space** have a unique vantage point of the fishery's day-to-day operations. Although united in their endorsement of the industry's sustainability platform, each player brings a slightly different perspective when it comes to his or her company's individual efforts. *Omega-3 Insights* sat down with a few representatives to get their thoughts on the eco-friendliness of the krill business.

According to John Cameron, managing director of Ålesund,Norway-based RIMFROST New Zealand, Antarctic krill is one of the world's largest biomasses on the planet, with the population estimated between 500 million to 600 million tons. "Human activity only has a negligible effect on this biomass," he said. "Only a small area of the Antarctic Ocean is open for commercial krill harvesting and the quota is set at very low levels—around 1 percent of the biomass in the harvesting area. The actual catch is just one-third of the quota." With those numbers, it's no wonder Cameron said it is "probably the world's most underexploited fishery."

Strictly regulated by the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR)—the international organization responsible for determining the quota—Cameron added only a small number of vessels are licensed to harvest krill from the area.

Despite the tight parameters, he understands the public concern. "Antarctic krill is a foundation of the Antarctic ecosystem, with many species dependent upon it as a food source," Cameron stated. "People are rightly interested in the health of the krill population and any factors—human or environmental—that may impact it."

However, he continued, "There is great reassurance due to the fact that only a very small amount of krill is harvested from this huge natural resource. We have a commitment to the transparency of our operations and share all data with the authorities—which, in turn, is open to public inspection. Strict harvesting quotas are set by CCAMLR, and Rimfrost adheres to these fully. This compliance and our wider operations are reflected in our Friend of the Sea certification."

People are rightly interested in the health of the krill population and any factors that may impact it.

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# RIMFROST

KRILL COLLECTION

## ECO-COLLECTING™

Efficient, sustainable and certified harvesting in the clean, non-polluted waters of the Antarctic. Our vessel 'Juvel' has low emissions, energy use and climate impact. Immediate on-board processing retains natural high quality of the krill and we deliver 100% traceability.

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## HIGH QUALITY

**RIMFROST SUBLIME Antarctic krill oil** uses a novel processing method to provide the best quality krill oil.

## NEW CLINICAL STUDY

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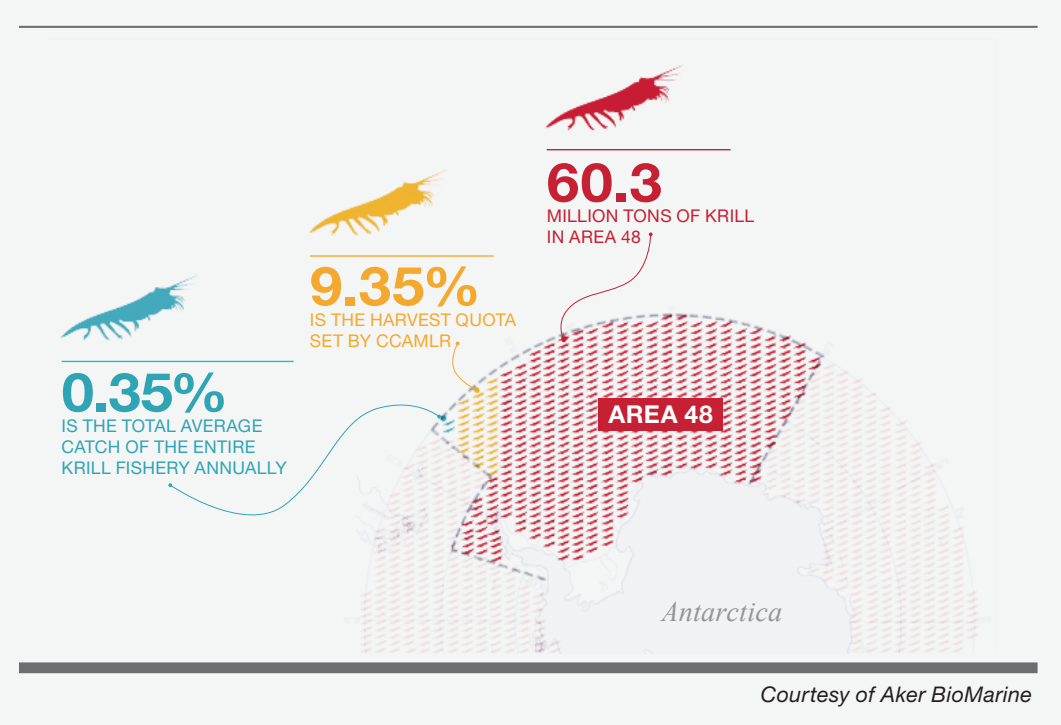



*Courtesy of Aker BioMarine*

Marte Haabeth Grindaker, sustainability manager for Aker BioMarine Antarctic AS in Oslo, Norway, pointed to certification as a differentiator for her company, as well. "Aker BioMarine Antarctic is the only krill-harvesting company certified by the Marine Stewardship Council (MSC), an international nonprofit organization with an independent certifying body and a public assessment process," she stated. "MSC focuses on the health of ocean stocks and how they are managed, in addition to assessing the effect of the fishery on the wider ecosystem, which includes a range of marine mammals, birds and fish."

MSC certification allows Aker's products to carry the MSC eco-label. It also means the company undergoes regular auditing, during which it must maintain certain benchmarks and conditions. And the lengthy recertification process—which the company completed in January 2015—can be equally daunting.

Grindaker said Aker BioMarine also co-founded the Association of Responsible Krill Harvesting Companies (ARK), an industry organization developed to promote research for the sustainable harvest of Antarctic krill. "ARK was established to coordinate and cooperate with CCAMLR, facilitating research and sharing information on krill and the krill fishery and its impact on the ecosystem, with the aim to contribute to CCAMLR's sustainable management of the fishery," she explained. "It is a center of information collection and distribution between ARK members and CCAMLR entities." Cameron noted Olympic Seafood was also one of ARK's founding members.

The sustainability efforts of krill companies range from the collaborative down to the highly individualized. Luc Rainville, director scientific affairs of Neptune Technologies & Bioressources Inc. in Laval, Québec, Canada, shared that since Neptune was established, it's had "its own in-house biological oceanographer

and krill specialist who is in charge of surveying and managing all the information available for monitoring that is related to all aspects of the global Antarctic krill fishery and how it might be perceived by consumers." He added, "Neptune systematically addresses any concerns of this matter from consumers and manufacturers." The company is also certified by Friend of the Sea for sustainable krill harvest. But because Neptune is not a fishery operator as such, it relies on organizations such as Friend of the Sea and CCAMLR to help ensure that the krill suppliers it works with are in compliance.

Despite the stringent work of CCAMLR, Grindaker pointed out, "There are still myths that need to be busted when it comes to the sustainability of krill fisheries." Often, consumer sentiment can fuel those myths; for example, the idea that humans are depleting the krill supply from the ocean wildlife relying on it for survival.

Traditional trawling methods—where the catch is hauled up on deck and emptied into holding tanks before processing—are unsuitable, as the krill contain highly digestive enzymes and can basically self-destruct before processing.

"Marine Protected Areas designated by CCAMLR surround coastal areas inhabited by birds and seals feeding on krill," Rainville explained. "Most of the large krill predator populations (penguins, seals, humpback whales, etc.) are relatively healthy and have been increasing dramatically over the last 30 years. Furthermore, scientific observations indicate that Minke whales have become unusually abundant. In a 2012 recent paper based on a review of data sources and their limitations, the authors indicated they are not yet confident as to who are the major krill predators since studies increasingly suggest that it is not seabirds and marine mammals, as is currently believed. As a recent example, in 2014, a NASA satellite survey of the Antarctic continent allowed the discovery of new unknown populations of Emperor penguins."

Aker completed its own four-year predator study, which was reviewed by the Antarctic Climate and Ecosystems Co-Operative Research Centre and WWF-Norway. The conclusion? "Our fishery has no impact on the animals that depend on krill as a food source," Grindaker reported.

By-catch can be another concern, whether at the consumer or regulatory level. "Harvesting krill in a commercially viable and environmentally sound way is challenging," Grindaker admitted. "Traditional trawling methods—where the catch is hauled up on deck and emptied into holding tanks before processing—are unsuitable, as the krill contain highly digestive enzymes and can basically self-destruct before processing.

Furthermore, unwanted by-catch, e.g. of fish and seals, is a problem with regular trawling in the South Atlantic and may pose a threat to fragile marine ecosystems in the Antarctic."

Aker invented an Eco-Harvesting® fishing technology to help eliminate by-catch, yielding a minimal environmental impact. It involves a specially designed trawl system, a proprietary mechanism for releasing any non-krill species unharmed, and underwater technology allowing for immediate processing of fresh raw material.

Consumers have varying degrees of understanding around krill and sustainability. Industry insiders shouldn't assume that outsiders are aware of how well the industry is governed.

"Consumers have varying degrees of understanding around krill and sustainability," Cameron said. For Rimfrost, accountability and transparency are the best ways to help advance the conversation. "Our harvesting operation is monitored and reported to both CCAMLR and Norwegian fishery authorities. We also have an independent observer onboard at all times, for surveillance and research purposes. In addition, we also support independent research of the Antarctic krill population. We have a commitment to using the best available technology to ensure that our operations are as precise as possible, with the least environmental impact. Our fishing activities involve no bottom trawling and we employ precise acoustic technology in our harvesting of krill. We operate mainly in the area of human nutrition and this is reflected in our relatively low catch tonnage. Further, we only catch what can be immediately processed on-board."

When asked how the industry can proactively better educate the public about krill and sustainability efforts, Rainville suggested "keeping manufacturers and consumers systematically updated about new scientific research on Antarctic krill and the Antarctic marine ecosystem, as well as providing deep thoughts on the overall context."

Finally, industry insiders shouldn't assume that outsiders are aware of how well the industry is governed. "The krill industry is required to adhere to the strictest operating protocols—and manufacturers and the wider public need to be aware of this," Cameron concluded. ❑

## Above and Beyond

Krill suppliers not only publicly toe the line reporting to industry organizations, they can also be found behind the scenes supporting unique research and conservation efforts.

### Rimfrost New Zealand

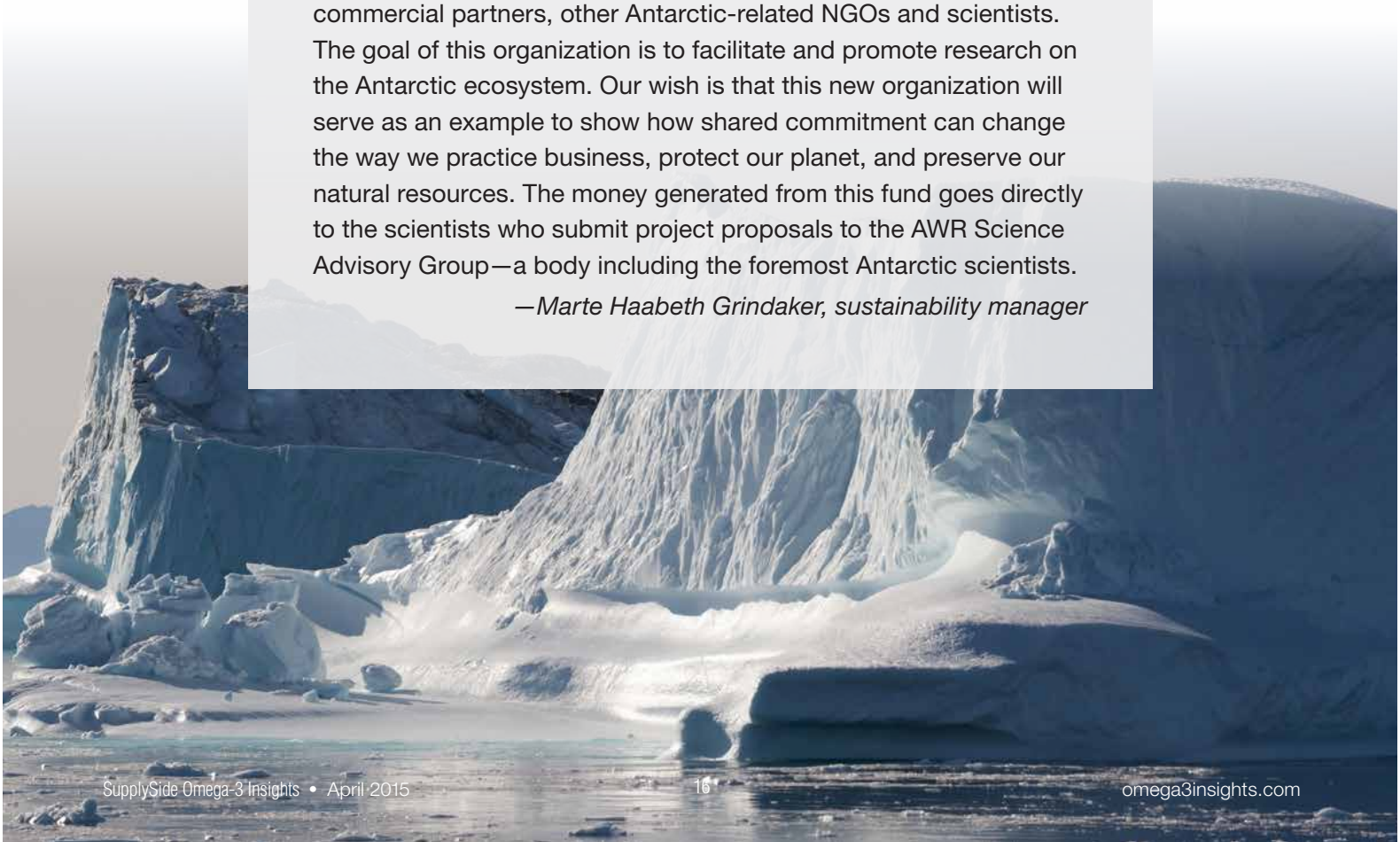
Two weeks every second year, our vessel hosts a number of scientists from the Norwegian Institute of Marine Research and the British Antarctic Survey, and allows them to study various aspects of the Antarctic ecosystem. One of the most important tasks of the research teams is to estimate the krill biomass through acoustic surveillance. We are dedicated to supporting this activity and we make efforts to position our vessel in accordance with the researchers' needs.

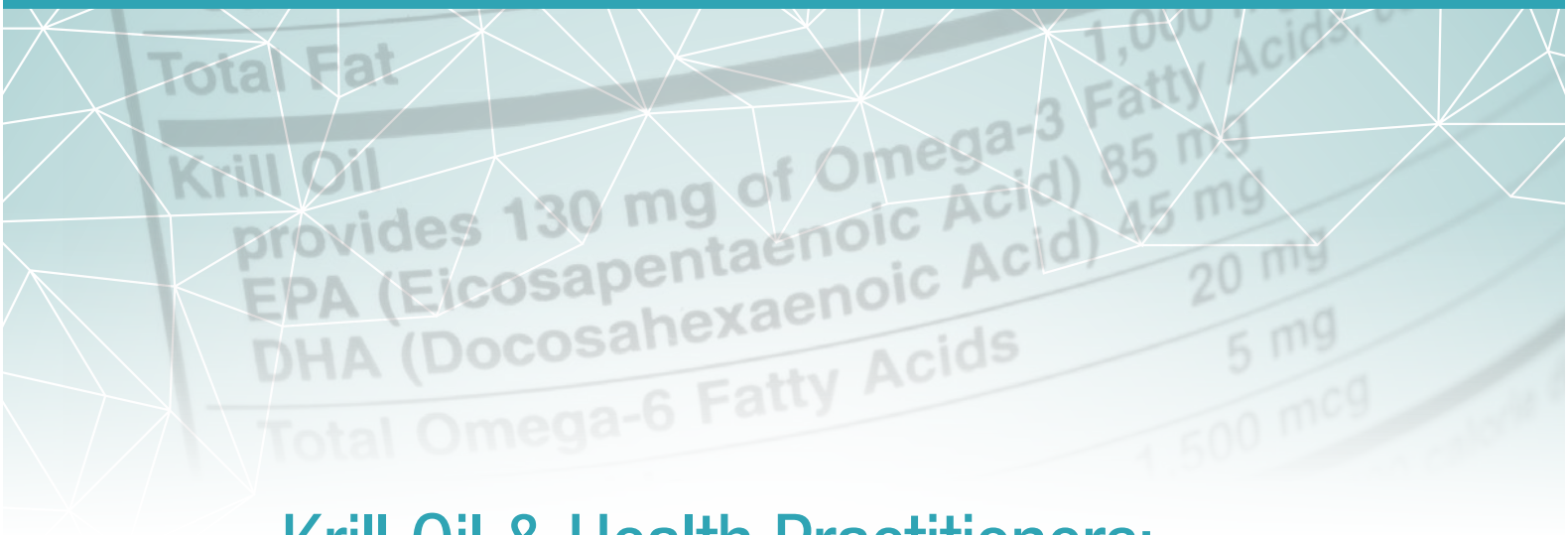
*—John Cameron, managing director*

### Aker BioMarine Antarctic AS

We recently helped co-found the Antarctic Wildlife Research Fund (AWR), a new non-governmental organization (NGO) that includes commercial partners, other Antarctic-related NGOs and scientists. The goal of this organization is to facilitate and promote research on the Antarctic ecosystem. Our wish is that this new organization will serve as an example to show how shared commitment can change the way we practice business, protect our planet, and preserve our natural resources. The money generated from this fund goes directly to the scientists who submit project proposals to the AWR Science Advisory Group—a body including the foremost Antarctic scientists.

*—Marte Haabeth Grindaker, sustainability manager*






# Krill Oil & Health Practitioners: A Prescription for Growth

## A strong contender in the mainstream dietary supplement market, krill oil is ready to move into new sales territory.

***by Becky Wright***

As **the second-largest omega-3 category**, krill has gained significant traction in the mass market, increasing to 16 percent market share (SPINS/IRI, 2013-2015). In terms of sales, krill oil has been the top-selling dietary supplement in the mass market for the last several years (SPINS/IRI, 2013-2015).

As growth stabilizes, however, many companies are exploring new sales opportunities. One particularly attractive market is health practitioners—the top influencers for dietary supplement purchases, next to pharmacists and dietitians/nutritionists, according to the Natural Marketing Institute (NMI).

Sales of supplements and natural products through health practitioners, *Nutrition Business Journal* (*NBJ*) estimated, reached USD $3 billion in 2013, with annual growth rates between 7 and 9 percent during the last decade. In some years, *NBJ* stated, the growth rates in the practitioner segment have outpaced retail. And in terms of omega-3 sales specifically, Adam Ismail, executive director of the Global Organization for EPA and DHA Omega-3s (GOED), said in a largely declining market, the health practitioner channel is one of a couple bright spots for these essential fatty acids (EFAs).

### Gauging Health Practitioner Knowledge and Use of Omega-3s and Krill

There are roughly 1.5 million health care professionals in the United States, representing a wide variety of medical disciplines, with differing skillsets, cultures and knowledge bases. An estimated 50,000 currently dispense supplements and natural products in their practices, according to *Holistic Primary Care – News for Health & Healing* (*HPC*).

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Health practitioners love dietary supplements, especially omega-3s, according to a 2014 study commissioned by Aker BioMarine and conducted by *HPC*. The 14-question survey, "How Do Dietary Supplements Fit into YOUR Clinical Practice?" was designed to gauge practitioner knowledge about clinical use of dietary supplements, with an emphasis on omega-3s. It was sent to physicians, nurses and ancillary health care professionals across the United States.

The 362 respondents represented a wide range of health care professionals; more than one-third were conventionally trained primary care physicians, whether a doctor of medicine (M.D.) or doctor of osteopathic medicine (D.O.) (35 percent). Medical specialists, nurses, naturopathic physicians, nutrition counselors and chiropractors were also included in the sample. Exactly half of these respondents indicated their practices were "mixed/integrative," suggesting that while they may still use conventional drug therapies, they were open to other alternatives.

Despite the fact that U.S. federal regulations prohibit supplement marketers from making claims that supplements can be used for prevention or treatment of disease, **88% of health professionals surveyed** said they recommend supplements explicitly to treat specific health conditions.

Most health professionals (95 percent) surveyed recommended dietary supplements to their patients. This number is noteworthy given that well over half of the respondents were conventionally trained physicians and nurses. Further, it reflects the significant growth of mainstream practitioner interest in supplements in the last decade—a trend largely driven by the widespread consumer interest in nutrition, dietary supplementation and non-pharmaceutical alternatives for health maintenance and disease management.

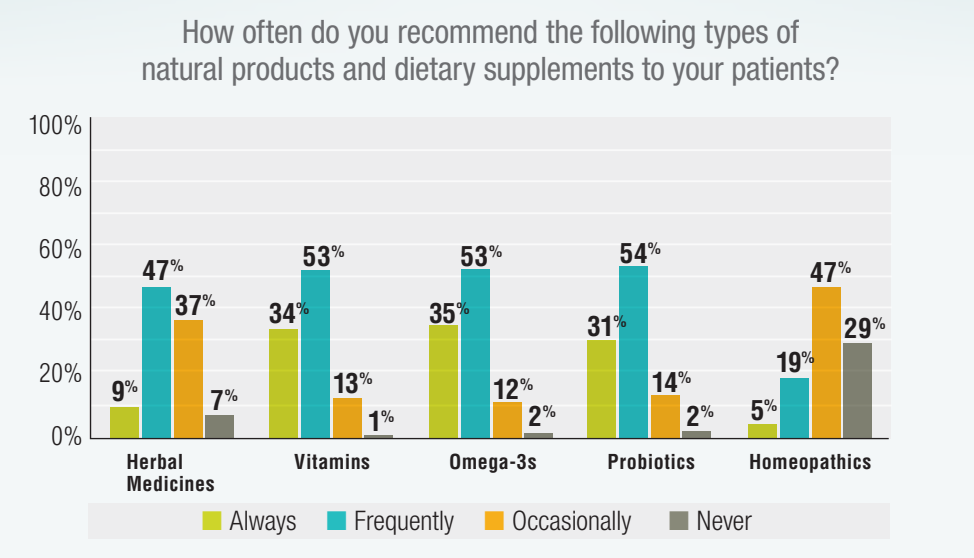
Interestingly, despite the fact that U.S. federal regulations (i.e., the Dietary Supplement Health and Education Act of 1994, or DSHEA) prohibit supplement marketers from making claims that supplements can be used for prevention or treatment of disease, the majority of respondents (88 percent) said they recommend supplements explicitly to treat specific health conditions. A similar number (78 percent) said they were recommending them to prevent health conditions.

Use of omega-3s was also high, with 88 percent stating they "always" (35 percent) or "frequently" (53 percent) recommended them. Of note, only 2 percent reported never recommending omega-3s.

The profile of omega-3 use was similar to that of vitamins and probiotics, for which the combined "always/frequently" figures were 87 percent and 85 percent respectively. (See Figure 1)

FIGURE 1:

## Practitioner Recommendations of Dietary Supplements




Although "heart health" was the top reason for which respondents recommend omega-3s (82 percent), the good news is that the clinical community clearly recognizes other health benefits, including: cognitive/mood effects (80 percent), inflammation reduction (81 percent) and joint health (65 percent).

In terms of specific omega-3s, fish oil was the undisputed category leader, with 52 percent of health practitioners considering themselves "very knowledgeable" and 45 percent rating themselves "knowledgeable" about it. Next in line was flax, with 35 percent considering themselves "very knowledgeable" and 51 percent "knowledgeable." Krill oil was third, with 23 percent of health practitioners ranking themselves as "very knowledgeable" about it, and 41 percent "knowledgeable" (64 percent combined). Of note, only 4 percent said they had never heard of krill oil.

Nearly one-third (32 percent) said their krill oil knowledge was limited, which represents an ideal educational opportunity for companies operating in the omega-3 space. (See Figure 2)

FIGURE 2:

## Practitioner Knowledge of Specific Omega-3s

| | Very Knowledgeable | Knowledgeable | Limited Knowledge | Never Heard of it |
|---|---|---|---|---|
| Fish Oil | 52% | 45% | 3% | 0% |
| Algal Oil | 11% | 20% | 41% | 28% |
| Krill Oil | 23% | 41% | 32% | 4% |
| Flax Seed/Oil | 35% | 51% | 14% | 0% |
| Chia Seed/Oil | 17% | 36% | 42% | 5% |

When it comes to omega-3 recommendations, it should be no surprise that fish oils were the most popular source of supplemental omega-3s, with 37 percent recommending fish oil "always," and 53 percent recommending them "frequently" (combined 90 percent).

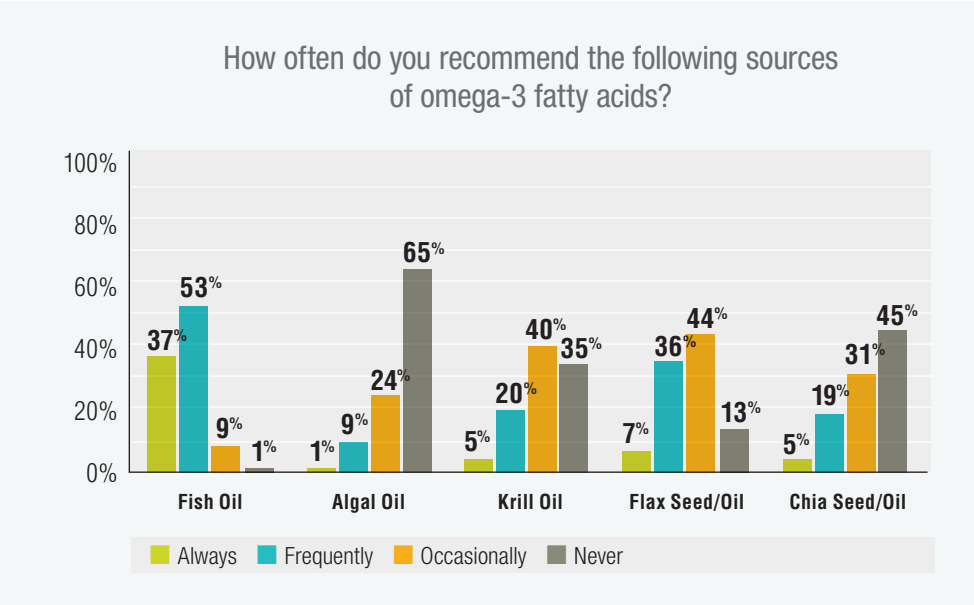
Flax was next, with 7 percent saying they "always" recommend it and 36 percent recommending "frequently" (combined 43 percent). Note that 13 percent "never" recommended flax, and 44 percent only did so "occasionally."

Krill oil ranked third, with 5 percent recommending always, and 20 percent recommending it "frequently" (25 percent combined). Thirty-six percent "never" recommended krill, and 40 percent recommended it "occasionally."

While krill had a substantial "fan base" among these practitioners, it is equally clear that there are many clinicians who have yet to discover—or recognize—its benefits. (See Figure 3)

FIGURE 3:

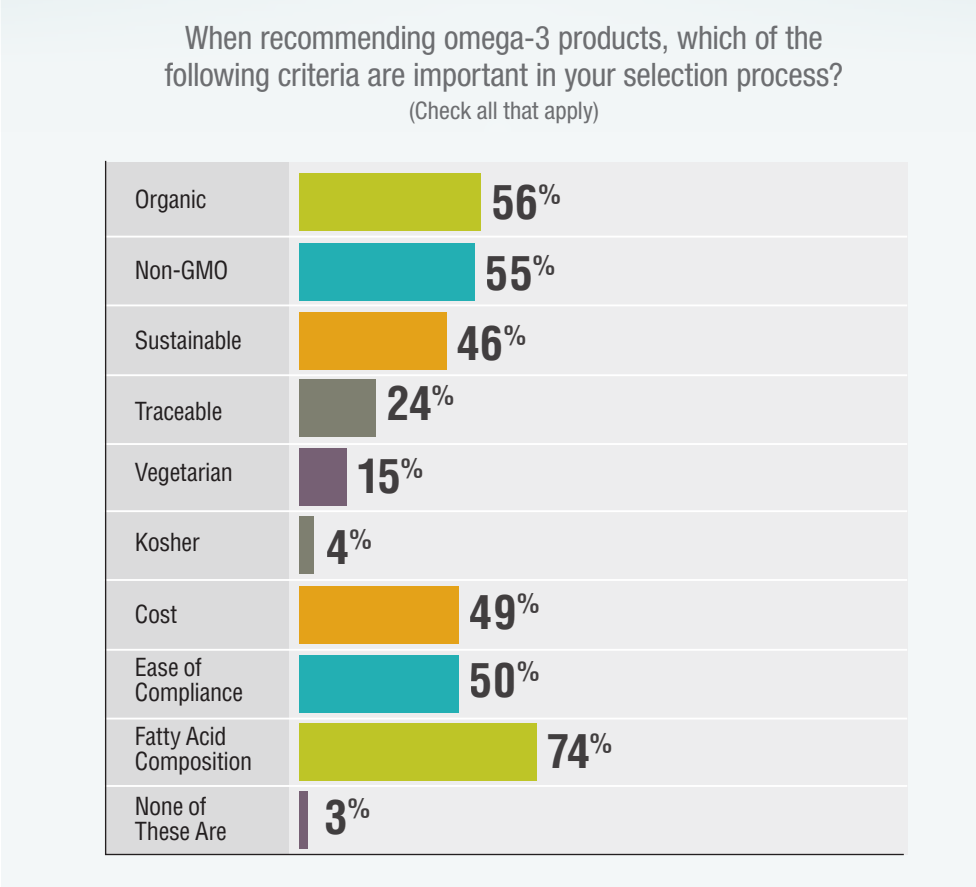
## Practitioner Recommendations of Specific Omega-3s




When considering recommending omega-3s to their patients, health practitioners ranked the following variables highest on their lists. "Fatty acid composition" was the most important selection criterion (74 percent) for omega-3s. More specifically, issues such as eicosapentaenoic acid (EPA)/docosahexaenoic acid (DHA) ratio and the form of omega-3s (phospholipid vs. triglyceride) mattered most to this group. Criteria such as "organic" and "non-GMO" were also important for 56 percent and 55 percent of doctors, respectively. "Sustainable" was important to nearly half (46 percent). (See Figure 4)

FIGURE 4:

## Selection Criteria for Omega-3s Summary




As consumer interest in supplements continues to grow, practitioners will need to look at shifting from straight conventional mainstream models to more integrative or mixed approaches to help meet their patients' needs. This survey reflects the significant growth of mainstream practitioner interest in supplements, with a particular emphasis on omega-3s. For the future, it makes the most sense for doctors to become more knowledgeable about all marine omega-3 options, so they can recommend them with confidence.

*Note:* The *HPC*/Aker BioMarine survey was deployed in June 2014; data was analyzed in July 2014. For more information, contact becky.wright@akerbiomarine.com. ❑

*Becky Wright is the marketing director at Aker BioMarine Antarctic US. Previously she served as editor of Nutraceuticals World, an industry publication that covers dietary supplements and functional foods.*

# OMEGA-3 CONTACTS

SupplySide Omega-3 INSIGHTS
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