

# Mainstream muscle

Protein supplementation is no longer the preserve of the bodybuilding beefcakes, reports **Michelle Knott**

Once confined largely to the fake-tanned bodybuilding arena, protein fortification and supplementation is now exploding into the mainstream.

Sports nutrition remains the biggest segment, pumping up to US\$ 5.4bn in 2011, according to Euromonitor, while the less sporty shelled out US\$ 1.6bn. However, the annual growth in non-sports-related protein has been 19% in recent years, with the total market expected to reach US\$ 2bn in 2016. "That was last year's research, and I would now expect the forecast to be higher," says Euromonitor's consumer health analyst Chris Schmidt.

"I expect to see a lot of activity in the non-sports nutrition arena. In mature markets, consumers tend to associate protein with fitness, which feeds into the greater demand for health and wellness products and a generally fitter lifestyle. Bulk powders are already being offered as food 'add-ins', and most major retailers have their own private-label brands."

In developed markets, weight management and healthy ageing look set to be the biggest drivers, while the

developing markets' emerging middle class will be preoccupied by healthy growth, he predicts.

Against this backdrop, there has been a huge rise in the price of whey, which has dominated the market in protein supplementation until now. The US Department of Agriculture says whey protein isolate prices have nearly tripled in three years, and Euromonitor says the tight supply of whey shows no signs of easing in the face of growing demand.

All this is paving the way for increasing vegetable protein activity.

Soy is the clear leader and has already carved out a strong niche in sports nutrition, and as a protein source for vegetarians and vegans. It's nutritionally complete, with all the amino acids the body needs to support growth and development. Greg Paul, global marketing director

“Sky-high whey prices have forced manufacturers to look for alternatives”



**Protein supplementation is exploding into the mainstream**

for sports nutrition and weight management at soy specialist Solae, highlights soy's credentials as cost-effective, nutritious, versatile and environmentally benign. Even so, some consumers are concerned about the presence of genetically modified organisms (GMOs) in soy, as well as its role as an allergen.

"GM is really about consumer choice. Because of this, we offer soy proteins made from GM and non-GM soybeans," says Paul. "Soy has a long history of safe use. In fact, soy-based infant formulas were developed for infants with allergies to cow's milk. Far fewer people are allergic to soy protein than other proteins such as dairy and eggs."

Nevertheless, competing protein suppliers see these chinks in soy's armour as a route into the market.

Pea protein sparks no concerns over GMOs or allergen labelling, for instance, and companies such as Roquette (under the Nutralys brand), Cosucra (Pisane) and Axiom (Veg-O-Tein) are looking to build on that.

Cosucra has been marketing its





Pisane pea protein isolate as a technical ingredient for over 20 years, for example, but has been repositioning itself to take on the ballooning “lifestyle” nutritional market.

“We see a lot of interest in the lifestyle segment, where people are less worried about the exact amino acid profile. Nutritionally speaking, whey is at a higher level, but pea protein is a good alternative for lifestyle customers and is very similar to soy,” says Guillaume Colmant, product manager for pea ingredients. “Sky high prices of whey and other animal proteins have forced manufacturers to look for more sustainable alternatives. Many started to substitute a little bit of the whey and discovered that Pisane was really interesting, not only on price, but also for nutritional and technical reasons.”

Colmant admits there’s still room for optimisation on taste and that some applications, such as clear acidic beverages, are impractical for pea proteins. But, he says, the focus so far has been on building awareness and demand. The next phase will be to diversify with ingredients to meet a wider range of functional needs.

Unlike pea proteins, which are essentially being “repurposed” to suit the new market, oat protein is a totally new type of ingredient, according to Swedish developer Biovelop. Proatein is a product of the firm’s patented fractionation process.

Launched in May, Proatein has

**Novel sources of protein include peas, peanuts, hemp, flax seed and canola**

already attracted lots of interest, according to David Peters, director of sales and marketing for Biovelop: “We’ve been overwhelmed.”

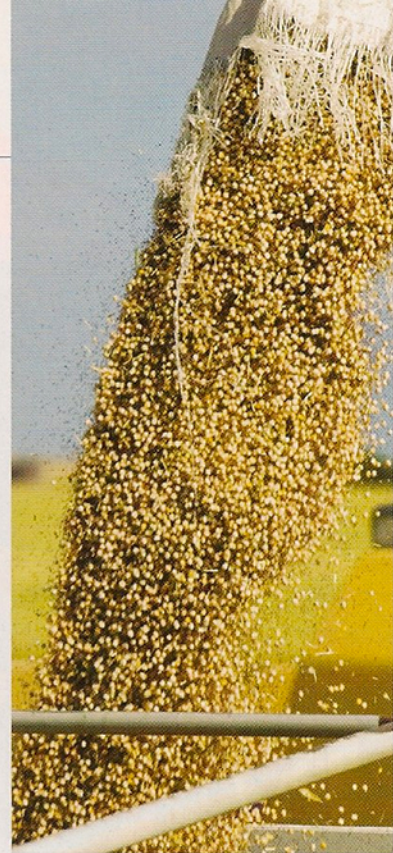
In fact, the product has taken off so rapidly that two Scandinavian firms are already using it in their sports supplements and Peters expects mainstream foods fortified with it to hit the shelves by the middle of 2013.

#### ON TRIAL

Trials are taking place with some major pasta and bread manufacturers. “These are interesting applications because they’re high-volume products. In bread, Proatein prevents staling. It’s probably because of the associated oil content in the oat extract,” he says.

Rice protein may not be such a novelty, but last year California-based Axiom Foods signed a deal for Danish distributor Nordic Food Partners to promote its Oryzatein rice extract in Europe. While limited quantities of rice protein have been available since the 1990s, Axiom says Oryzatein is unique in including protein from the bran, endosperm and germ layers.

“Each layer has a different amino acid profile, and only when combined is it a complete protein source. Axiom’s rice protein has all 18 amino acids and in the right proportions, which is why it is the only plant protein with a 96% correlation to whey’s amino acid profile,” says Axiom chief executive David Janow.



“It is also why the US Pharmacopeial Convention is monographing Axiom Food’s rice protein as the industry standard for all rice proteins.”

The firm’s rice protein is already cropping up in Europe in supplements, infant formulas, bars and baked goods, but Janow says building awareness among European consumers about its benefits will be the key to a future boom in demand: “One of our challenges is being a business-to-business supplier but also a business-to-consumer educator.

“When choosing a protein, rice protein has everything you want that’s found in other protein sources and it doesn’t have anything you don’t want. There is an alternative to whey and soy proteins that has a 96% correlation to the amino acid profile of whey protein and yet is all-inclusive to millions of people with dietary restrictions, by choice or by necessity.”

Axiom also markets Veg-O-Tein pea protein, and is looking to develop an even wider variety of veg-based proteins. “Sacha Inchi protein will be coming soon, which is high in the omegas, plus potassium, calcium and phosphorous,” says Janow.

Meanwhile, two Canadian firms – BioExx and Burcon – have signed development deals for canola protein and the American Peanut Council is predicting rapid growth for peanut flour. Other developers are looking at flax seed and hemp.

In short, the contenders are jostling for position in the lucrative arena of vegetable protein.

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