"Disruptive Innovation" to Change the Face of the Protein Market

11 Jan 2017 --- Increasing population, climate change, ecosystem degradation, energy- water- and land scarcity are making today's food production increasingly unsustainable. Disruptive innovation can be defined as the introduction of new technologies and products – such as generated by cellular biotechnology – that unexpectedly displace an established technology and often disrupts the status quo.

Take a page from the Apple handbook: entrepreneurial startup food companies often tend to innovate faster than their customer's need evolve. These disruptive products, services and solutions are generally first available for sophisticated customers at the top of the market. In contrast, legacy food companies typically prefer to maintain the status quo and rely on small incremental change, also termed sustaining innovation. That is the main reason why the 25 largest US legacy food companies have seen their sales declining ever since 2012.

"The world cannot sustain the number of animals it takes to feed the burgeoning population reaching 9.4 billion by 2050. However, there is light at the end of the tunnel and soon new systems such as cellular agriculture will become available to grow abundance of meat and milk protein -without the animals involved at all," protein specialist Henk Hoogenkamp writes in his new book 'Plant Protein & Disruptive Diagnostics.'

The book deals with the "Transformational Food Journey for Today's Future: Profound insights for food industry and consumers," with Hoogenkamp arguing that entrepreneurial startups such as Perfect Day Foods, Memphis Meat and Mosa Meat will disrupt traditional animal agriculture methods and create a more sustainable food infra-structure.

"The problem is that the developing world wants to eat like the developed and affluent world, and in particular drive the huge increases in consumption of animal products like meat and dairy that are so vastly inefficient. The conventional agriculture won't be able to keep up with demand with exacerbating the myriad of ecological problems, such as feed-to-meat conversion, water consumption, outgrow waste, and methane release," Hoogenkamp argues.

"The clear answer is cellular agriculture which allows building an animal or plant protein platform by taking the actual animal out of the supply chain equation. The primary goal is to safeguard food security and decrease the environmental consequences of traditional farming," he says.

Recently the technology and investor community – including New Harvest, Peter Thiel (PayPal), Bill Gates (Microsoft) and Sergey Brin (Google) have become involved in supporting the drive to find more efficient ways to grow food. These entrepreneurial people together with capital venture companies also disrupt the traditional financing such as Rabobank.

Besides the rapid progress of cultured meat and cow-free milk creation, there are more technological alternatives. Foods made from plant protein now allow animal-realistic meatfree products. Startup companies such as Impossible Foods, Beyond Meat (US), and Brecks Food (UK) are often using food science and genetic sequencing technology to simulate plant protein based equivalents to animal-derived products.

“There is a growing demand for plant protein formulated foods, especially driven by the rapidly increasing number of flexitarians in affluent countries like North America, the UK and Germany. But let's not cheer too soon. Still more technology improvement and socio-marketing is necessary to truly reproduce classic organoleptic meat attributes. The way research is making progress, at some point in the future the plant meat foods will reach par (in blind testing) and may obviate the need for traditional intensive farm-raised animals,” writes Hoogenkamp.

Henk Hoogenkamp's book tackles topics from food-related disease to malnutrition to organic and GMO to dealing with a world approaching an epidemic of obesity.

For most consumers in the Western world an abundance of animal protein is nearly always part of the daily diet, while for most in the developing world not sufficient animal protein is available. Hoogenkamp argues that the key to solving this dilemma is unlocking the potential of plant proteins as well as cellular biotechnology that deliver affordable nutrition, improve health and wellbeing and reduce the environmental burden in an era of shrinking water and land resources.

But Hoogenkamp stresses that it is not just the food industry which will be disrupted. “Perhaps equally important are the many disruptions in the socio-economic and demographic settings,” he notes, citing 3 factors in no logical order: 1) People using their iPhones to monitor a heart irregularity or attack and subsequently confront their doctor specialist with the diagnosis. Obviously these and more medical "interpretations" cause great friction and an entire level of base-line care is eliminated.

2) The huge changes in behavior attitudes of the millennial generation. Just to mention a few: marriage is optional, delayed childbirth, cooking is optional, social media sub-cultures.
3) The world population is adrift. Huge disruptions in cultural settings, including food choices. Take for example airline food: pork has completely disappeared from the inflight line-up.

Along with detailed chapters discussing plant protein varieties such as derived from soy, pea, wheat, rice, potato and hemp "Plant Protein & Disruptive Diagnostics" explains:

- Food, water & climate change
- Sports Nutrition, Wellness & Lifestyles
- Food: People, Plamnet, Profit
- Glutenfree Protein Solutions
- Societal Food
- Diabetes T2: From Bad to Worse
- Fast Good Food & Family
- Fiber: A Natural Need for More
- Lifestyle Diagnostics
- Real Plant Meat
- Sugar, Salt Phosphate: Less is More
- Natural & Organic
- Sarcopenia & Longevity

www.henkhoogenkamp.com