



# Growing Demand for Plant-Based Meat, Get Ready with **I-BIND™** System



VEGAN



GMO-FREE



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# Why

## PLANT-BASED MEAT?

It is estimated by the United Nations that the world population would increase from 7.7 billion in 2019 to 9.7 billion in 2050 (United Nations, 2019). Accordingly, global food demand will keep rising. The world needs to increase the efficiency of food production by 70% between 2007 and 2050 in order to feed its growing population.

The increase in food productivity especially proteins in the form of meats will become increasingly challenging. **Much more production of meat, as an ever-common source of protein, will be needed to feed the enormous population in the future. How could we adapt?**

A close look indicates the insufficiency of the world resources to produce that much meat. The production of typical animal meats for more than 9 billion people would require more natural resources including land, water, and energy than the world has to offer. Moreover, the amount of greenhouse gases emitted by that much livestock farming would negatively impact the environment.

In short, typical livestock farming would not produce enough meat for the increasing world population. Thus, we need to be ready by having the technology to produce meat without depleting the world's resources.



## Plant-Based Food is a **Vital Key**

Plant-based meat alternative is the vital answer to providing sufficient protein in the form of meat for the world population. The production of plant-based meat requires significantly lower natural resources than that of livestock as shown below, not a burden to the environment. Therefore, plant-based meat is the sustainable protein source for everyone.



93% Less Impact  
in Land Use



90% Less  
in GHGs



99% Less  
Impact on Water Scarcity



45% Less Energy



# Plant-Based is HEALTHIER

In comparison with typical livestock meats, **plant-based meat is healthier being free from cholesterol, antibiotics, and hormones.** These healthy attributes make plant-based meat increasingly attractive to everyone. Both vegetarians as well as flexitarians turn to meat alternatives for better health, better tastes, and sustainability. With the growing demand, many food companies are interested in creating their signature plant-based products **to capture the huge global market opportunity.**

## Health Benefits of Plant-Based Meat



72% Reduced Risk  
of Heart Disease



Reduced Inflammation



78% Reduced Risk  
of Diabetes



Reduced Risk of Cancer



Eliminate Risk of  
Kidney Stones



Boost Immune System

## Let **SMS** Do the Hard Work for You with **Our Plant-Based Meat Formulation Research**

Formulating perfect meat analogs may pose a big challenge for new players and startup companies due to the lack of technology and know-how expertise to customize their meat substitute products. At **SMS** Innovation Center, we have innovated a plant-based meat system for all kinds of meat cuisines, customizable to your exact needs.

With **SMS's** technical capabilities and footprint, we can help translate your great ideas into delicious food products. Our plant-based meat specialists can support you to formulate perfect meat analogs achieving the textures your customers are looking for. **SMS Innovation Center is equipped with technologies, instruments, and most importantly expertise. We are readily available to support your company toward greater innovations.**

**“Translate  
Great Idea  
to Delicious Food”**



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**At **SMS** Innovation Center, we are dedicated to exploring the perfect blend of plant-based meat with real meat texture by enhancing firm bite, bouncy, and juicy textures that consumers prefer.** The fibrous texture is commonly formulated using Texturized Vegetable Protein (TVP) or Texturized Pea Protein (TPP). However, structured vegetable protein alone cannot imitate animal meat due to the lack of binding ability and firm bite.



## I-BIND™ for Novel Plant-based Food

SMS offers you a comprehensive system for plant-based meat via I-BIND™, an integrated blend of plant proteins and food texturizers specifically developed for all-purpose meat-like experience through texturizing and binding of plant-based meat. I-BIND™ enables you to broaden your recipes for plant-based culinary including meat patty, minced meat, meatball, stir-fried meat, and nugget by enhancing the firm-bite and bouncy & juicy texture of plant-based proteins.

With only I-BIND™, you can quickly and easily develop your own plant-based recipe on the way to grow more opportunities.

I-BIND™ provides versatile benefits:

- Firm and Bouncy Bite
- Juicy Texture
- Excellent Binding Ability (Mixing, Freezing, Grilling, Deep Frying, and Steaming)
- Convenience
- Non-GMO
- Non-Allergen

I-BIND™ innovation will continually develop to create delightful meals for plant-based consumers. The diverse plant-based menus capturing consumers' eating lifestyles are expanding the market wider than ever.

### About SMS

The global leader of Non-GMO TAPIOCA STARCH AND MODIFIED TAPIOCA STARCHES from THAILAND is internationally certified with BRC, FSSC 22000, FDA, HACCP, ISO, HALAL, KOSHER.

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