



# Plant-Based Fats and Oils Deliver Success

How to Make Great-Tasting Plant-Based Cheese  
and Come Out on Top in a Dynamic Market





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There is simply no denying that plant-based cheese is a rising star in today's food and beverage marketplace.

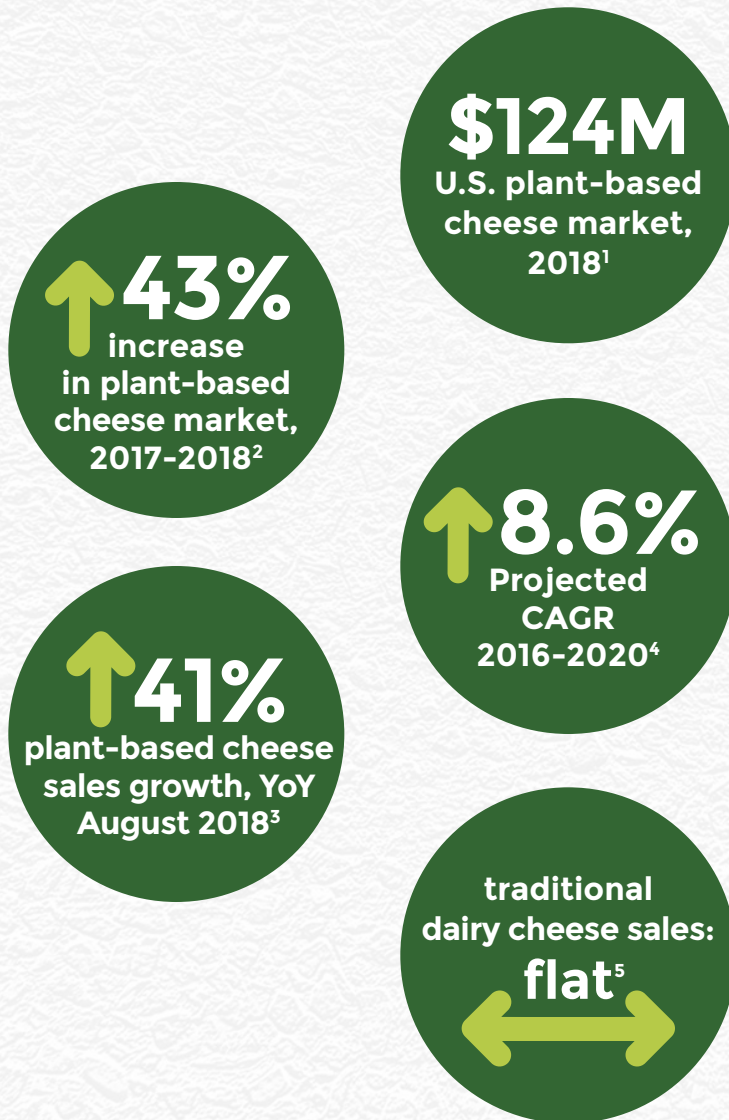
The numbers do all the talking  
in this success story...





# The What: By The Numbers

## Plant-Based Cheese (U.S. Market)



### SUMMARY

In 2018, not only was the U.S. plant-based cheese market worth \$124 million, it had jumped 43% since 2017 and was 18% of the entire plant-based dairy market segment, outpacing all other plant-based dairy products except creamers (131%) and yogurts (55%).<sup>6</sup> The global plant-based cheese market is expected to grow at a CAGR of 8.6% through 2028.<sup>7</sup>

At the same time, recent USDA reports reveal that traditional dairy product consumption across the U.S. has been declining for decades.<sup>8</sup>



# The Why: Market Drivers & News

## CHANGING CONSUMER PREFERENCES TOP LIST OF DRIVERS

In 2018, North Americans comprised one-quarter of the global dairy alternatives market.<sup>9</sup> **Flexitarians, vegetarians, and vegans** alike, along with consumers with **lactose intolerance** are contributing to the growth of the market.<sup>10</sup>



# 52%

**of American consumers**  
consider purchasing plant-based  
foods over animal-based meals.<sup>11</sup>

**Dairy-free manufacturers have partnered with medical and healthcare advisers** to deliver messaging through promotions and social media to make more consumers aware of plant-based cheese—especially for people with lactose intolerance or seeking healthier products.<sup>12</sup> Investment in the American plant-based dairy market follows the improved performance of that same market,<sup>13</sup> **in turn inspiring the traditional dairy industry to launch more sustainable, plant-based options too.**<sup>14</sup>



## GROWTH DRIVEN BY CONSUMER DEMAND

Multi-million-dollar investments in the plant-based industry have spurred the development of several dairy alternatives including plant-based cheese shreds in the U.S.<sup>15</sup> With more and better-tasting plant-based options, along with increasing demand for dairy cheese alternatives, companies in the industry—even leading fast food chains like McDonald's and Domino's Pizza<sup>16</sup>—are expanding their offerings to compete in an ever-growing market.<sup>17</sup>



Within the first two weeks of 2019, at least **14 new dairy alternative product lines** were released into the American market.<sup>18</sup>

## The Young, the Wellness-Driven and the Environmentally-Conscious

Led by **Millennials** and **Generation Z**, more and more American consumers are exploring healthy, sustainable plant-based dairy alternatives.<sup>19</sup>

**Some factors responsible for the growing sales of plant-based foods:**<sup>20</sup>

- ◆ taste preference **(52%)**
- ◆ the perceived/assumed health benefits **(46%)**
- ◆ desire to consume less processed foods **(39%)**
- ◆ sustainability concerns/the environment **(13%)**





## 4 CONSUMER MOTIVATIONS CONTRIBUTING TO PLANT-BASED DAIRY SEGMENT GROWTH



### PERCEIVED HEALTH BENEFITS

**36%** of U.S. consumers who regularly buy plant-based dairy alternatives do so because of the perceived health benefits<sup>21</sup> with even more (46%) agreeing that **plant-based options are better than or contain more nutrients** than animal-based options.<sup>22</sup>



### FLEXITARIANISM, VEGANISM AND A 'CROSSOVER' AUDIENCE

More meat eaters are turning to a flexitarian diet; while they are unwilling to give up animal products, they are choosing to **add more plant-based alternatives** to their diet.<sup>23</sup>

**Veganism is moving into the mainstream**<sup>24</sup> thanks in part to awareness-raising months like 'Veganuary' which recorded 250,000 non-vegans in 93 countries, pledging to live a plant-based diet for at least 30 days.<sup>25</sup>

As a quarter of Millennials say they are vegans or vegetarians, **vegan food sales are unsurprisingly outpacing** the total growth of food and beverage sales,<sup>26</sup> creating an even larger supply—and demand for—plant-based dairy alternatives.<sup>27</sup>



### ETHICAL CONCERNS, ANIMAL RIGHTS AND ENVIRONMENTAL SUSTAINABILITY ISSUES

*"In May 2018, scientists declared that avoiding meat and dairy products was the best action people could take to improve the environment—even more than buying an electric car!"*<sup>28</sup> **Younger generations are seeking transparency around the origins of the foods**, with a growing awareness that animal-based diets are unsustainable in meeting the protein requirements of a growing world population. In addition to the **awareness about the vast amounts of resources that are needed to raise animals for human consumption**, the conditions in which animals are raised and harvested is also contributing to plant-based purchases.<sup>29</sup>



### LACTOSE INTOLERANCE, DAIRY SENSITIVITY AND DAIRY ALLERGIES

An estimated 30 to 50 million Americans currently **suffer from lactose intolerance**,<sup>30</sup> and many choose to **eliminate dairy** from their diet completely,<sup>31</sup> depending on plant-based products for the majority of their protein intake.<sup>32</sup>



## PLANT-BASED DAIRY CONTINUES TO SPROUT MARKET GROWTH

North America and Western Europe are the **most lucrative markets for plant-based cheese** because of the popularity of ready-to-eat snacks.<sup>33</sup>



**19.3%**  
**plant-based cheese**  
YoY U.S. Sales Growth, 2018<sup>34</sup>



## TASTE STILL TOPS CONSUMERS' CHOICE

While there are so many drivers for consumers to turn to dairy alternative food—the **taste, appearance and texture** of the products they buy remains paramount to purchasing.<sup>35</sup>

Fortunately, the days of plant-based alternatives being synonymous with a grainy mouthfeel and lackluster taste are over, allowing people to buy products that align with their values and health consciousness without compromising on the most important thing: taste.<sup>36</sup>







## TAKING ON THE CHALLENGES OF PRODUCT DEVELOPMENT

For so long, the taste of plant-based dairy alternatives paled in comparison to their animal-based counterparts, but while the market demanded better, the challenges of developing superior alternatives can be complex.

For example, the flavor and function of traditional dairy cheese is influenced by fermentation, room temperature, enzyme ratio, microbial activity and the aging process—aspects that can be difficult to mimic.<sup>37</sup>

Though **vegan cheese** has seen an improvement in sales volume, it has lagged behind several plant-based dairy alternatives such as milk, due to the challenges arising from the “exceedingly complex nature of cheese.”<sup>38</sup>

## PRODUCT DEVELOPERS NEED FATS AND OILS SOLUTIONS THAT PERFORM ESSENTIAL FUNCTIONS:

- ◆ Enhancing taste and texture, delivering dairy flavor
- ◆ Contributing flavor masking or a barrier against protein off flavors
- ◆ Providing structure for all-important mouthfeel, shreddability and sliceability
- ◆ Achieving desired melt, stretch and browning
- ◆ Offering moistness, lubricity and freeze-thaw stability



# How AAK Answers Product Development Challenges

With the versatility provided by one the broadest lines of fats and oils in the industry and over 140 years of experience in plant-based oils and fats, AAK can answer the most demanding product development challenges. AAK's legacy of expertise along with their co-development approach have evolved into their premier platform, AkoPlanet™.

## AkoPlanet™ means:

### PEOPLE

Made with people, for people: enabling the enjoyment of sustainable plant-based foods without having to compromise on taste and texture.

### PLANT

Made with generations of experience in plant-based oils & fats: Encompassing over 100 years of plant-based experience, AkoPlanet™ delivers on the important needs...taste, texture, health and sustainability.

### PLANET

Made with responsibly sourced, traceable raw materials: Through AkoPlanet, we are moving toward a more sustainable world.

**AAK develops industry leading plant-based solutions by orchestrating ingredient synergy with a strong network of plant-based suppliers.**

**AAK'S TOOLBOX** goes beyond their enhanced portfolio of raw materials, with the oils and fats expertise to deliver solutions that meet your targeted goals including:

- ◆ Health
- ◆ Sensory
- ◆ Functionality
- ◆ Sustainability
- ◆ Process efficiency
- ◆ Food safety and shelf life

**AAK'S PORTFOLIO** of multi-sourced oils and fats includes:

- ◆ Canola/Rapeseed
- ◆ Coconut
- ◆ Corn
- ◆ Palm & Palm Kernel/RSPO Certified
- ◆ High Oleic Safflower
- ◆ Soybean/Non-GMO Project Verified
- ◆ High Oleic Sunflower



## A CENTURY OF FATS AND OILS EXPERTISE WITH AN EYE ON THE FUTURE

No matter your goals—nutritional, functional or driven by consumer trends—AAK can help you meet them, with over 140 years of experience in fats and oils. Their team uses food science, product development and an expansive oils and fats portfolio to co-develop value-adding formulation solutions to meet your goals.

AAK uses their AkoPlanet™ platform together with their customers to develop great-tasting plant-based food made **with love for people, plants and the planet so people who choose a plant-based lifestyle can enjoy the foods they love without compromise.**



### AAK's dairy alternative R&D team includes the following, working in tandem:

- ◆ U.S. award-winning dairy experts
- ◆ plant-based experts, versed in all components
- ◆ fats and oils experts
- ◆ fats and oils applied research

**AAK features in-house dairy innovation centers on every continent, creating a strong global network of co-development opportunities.**



### Industry-leading plant-based cheese development

Together, this combined **non-dairy cheese expertise and process development strength** have enabled AAK to create plant-based cheeses that are equal to or better than traditional dairy-based cheeses.



# Taking on the Challenges of Consumer Appeal

**Most consumers can remember the anticipation of trying plant-based cheese for the first time, only to find it lacking in taste and texture. Calling the product appealing or satisfying would have been a stretch, with its inability to melt, slice or shred as well as traditional dairy-based cheeses.**

## **Consumer Appeal: Appearance, Taste and Texture**

Cheese lovers have been searching for great-tasting plant-based substitutes to overcome their consistent disappointment in taste. Recognizing the huge need in the market, brands have been steadily working to improve their existing plant-based cheese products, or starting over completely, with the development of brand-new products to more closely resemble the flavor and mouthfeel of actual dairy cheese. The hard work of brands to improve plant-based alternatives has been met with sales growth reflecting the improvement in taste.<sup>29</sup>

## **HOW AAK DELIVERS PLANT-BASED CHEESE THAT SURPASSES 'REAL' APPEAL**

### **It's a New Day for Plant-Based Cheese**

Until now, vegan cheese products did not possess a high enough level of appearance, texture and taste to allow manufacturers to feel or say with confidence that their plant-based cheese:

- ◆ **LOOKS** like the full dairy alternative
- ◆ **TASTES** like the full dairy alternative
- ◆ **EATS** like the full dairy alternative
- ◆ **FUNCTIONS** like the full dairy alternative or better: sliceable, shreddable, meltable, stretchable

This new level of quality achieved by AAK in co-development with their customers creates great opportunity for all eating occasions in the refrigerated and the frozen market, including appetizers, entrées, pizzas and snacks.

Today, AAK's AkoPlanet™ platform for plant-based foods is creating the opportunity for manufacturers to offer an unparalleled sliceable and shreddable plant-based cheese with a smooth appearance, clean melting texture, creamy mouthfeel, and delightfully clean dairy flavor.



# Consumer Appeal: Sustainability

Beyond taste and texture, consumers want even more.

**54%** say **environmental sustainability** in purchased food products is important to them<sup>40</sup>

Environmentally aware consumers are seeking sustainable practices in the products they purchase, and take into consideration:

- ◆ responsible sourcing
- ◆ transparency and traceability back to the growing region
- ◆ ethical business practices

Additionally, these consumers may opt for plant-based products due to their smaller carbon footprint compared to animal-based counterparts.

## DELIVERING SUSTAINABILITY SOLUTIONS

Made with traceable raw materials, the **AkoPlanet™** line of products exemplifies how AAK seeks to play their part in a more sustainable world. AkoPlanet supports AAK's continued commitment to help fulfill consumers' desires for better-for-you and sustainable products that look and taste great.

## AAK: DEDICATED TO SUSTAINABILITY AND RESPONSIBLE GROWTH

The planet is facing many challenges. The changing climate, the increasing demand for food, and the depletion of natural resources are just a few of today's growing concerns.

AAK works with their customers to create solutions that are good for people and the planet. AAK knows that in order to remain sustainable, they have to optimize their resources and acknowledge socially responsible behavior as an obligation across their organization.

AAK has also been placed on Corporate Knights Inc.'s 15th Annual Global 100 ranking of the world's most sustainable companies in recognition for their leadership in sustainability.



# Consumer Appeal: Clean Label

**1/3** U.S. food/beverage products  
classified as clean label in 2018<sup>41</sup>

**20%** consider  
clean labels when making  
a food purchase decision<sup>42</sup>



## DELIVERING CLEAN LABEL SOLUTIONS

AAK offers non-hydrogenated, zero trans and no cholesterol cheese solutions that fulfill consumer desires for clean label, better-for-you foods.

# Consumer Appeal: Allergen Concerns

**26.3%**  
consider themselves allergic  
to milk and dairy<sup>43</sup>

**11%** follow a  
lactose-/dairy-free diet<sup>44</sup>



## DELIVERING ALLERGEN-FREE SOLUTIONS

AAK delivers plant-based dairy-free cheeses that are not only free of allergens but also offer consumer-pleasing taste and texture.





## TAKING ON THE CHALLENGE OF PROCESSING CONCERNS

### Addressing Pressing Manufacturer Challenges

Not surprisingly, the manufacturing processes for plant-based cheese differ significantly from that of traditional dairy cheese. One of the main challenges of plant-based manufacturing lies in the need to identify the ideal blend of fats and oils to symbiotically interact with other plant-based ingredients and the palate to deliver the specific organoleptic and functional properties of each type of cheese. The correct fat-based solution will mitigate the unappealing graininess and off flavors associated with the protein in many plant-based dairy alternative products.

### How AAK Solves Manufacturers' Processing Challenges

Working with AAK enables brands to experience so much more than simply the purchase of fats and oils. AAK has extensive experience working with brands to solve the biggest challenges in the industry: how to best combine their preferred proteins, fats and starches in dairy alternatives in a way that matches the desired rich creamy mouthfeel or melt characteristics. AAK's co-development approach to working with brands ensures that product developers can tap into AAK's expertise and deliver on superior product attributes, features and benefits, without going back to the drawing board.



## TAKING ON THE CHALLENGES OF NUTRITIONAL CONCERNS

### Vegans Need Nutrients Too!

The panacea for seekers of plant-based cheese is not just delicious products, but products that deliver on the same—or better—nutrients like protein and fats that traditional dairy cheese offers. Working with AAK enables brands to tap into the ideal formula of fats, proteins, carbohydrates and flavor to deliver plant-based cheese that is equal to or better than dairy cheese.

### How AAK Answers Manufacturers' Nutritional Concerns

AAK's extensive expertise in co-development with their customers in multiple food industry segments, including special nutrition, utilizes unique process and formula customization to meet nutritional demands. AAK offers their expertise in:

- ◆ reintroducing proteins, amino acids, vitamins and minerals to accommodate any missing nutrients in dairy-alternative products.
- ◆ masking the addition of protein, to deliver similar nutritional benefits as traditional dairy cheese.
- ◆ the ability to address the right fat profile that works with customer-selected proteins.



# A Real Success Story

## AkoPlanet™

### Plant-Based Sliced Cheese

rich smooth texture with clean cheese flavor

**Challenge:** dairy-alternative cheese with appealing taste and texture and ability to be sliced or shredded

**Solution:** AkoPlanet™ organic oil blend

**Result:** A deliciously plant-based sliceable and shreddable cheese sure to please dairy-free and dairy-loving consumers alike







**Imagine if non-dairy cheese was able to deliver the same, if not better, taste, appearance and texture of animal dairy.** This has long been the dream of plant-based consumers, who now expect and crave non-dairy cheeses that can deliver a punch in the way that they now know plant-based products can.

Co-developed plant-based cheeses with AAK are now at this important brink: the ability to offer products that will be game-changers. AAK's new co-developed plant-based cheeses have tapped into the emotional needs of non-dairy consumers by **providing cheeses that consumers say looks, slices, shreds, melts and tastes like the 'real' thing**—and the market will follow the excitement these products bring.



# About AAK

AAK is a leading provider of value-adding vegetable oils & fats. Their wide range of raw materials, broad process capabilities, and expertise in oils & fats within food applications enable them to develop innovative and value-adding solutions across many industries – Chocolate & Confectionery, Bakery, Dairy, Special Nutrition, Food Service, Personal Care, and more.

AAK's proven expertise is based on more than 140 years of experience within oils & fats. Their unique Co-Development approach brings their customers' skills and know-how together with their own capabilities and mindset for lasting results. Listed on the NASDAQ OMX Stockholm with headquarters in Malmö, Sweden, AAK has 22 production facilities and customization plants, sales offices in more than 25 countries and more than 3,700 employees.

**Find out more about AAK USA by visiting:  
[www.betterwithAAK.com](http://www.betterwithAAK.com) | [www.aak.com](http://www.aak.com) | [www.aak.com/akoplanet](http://www.aak.com/akoplanet)**

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