

# **Upcycled Food Ingredients & Byproduct Utilization Market Forecasts to 2034 – Global Analysis By Ingredient Type (Fruit & Vegetable Byproducts, Cereal & Grain Byproducts, Dairy Byproducts, Meat & Seafood Byproducts and Other Ingredient Types), Source, Technology, Application, End User and By Geography**

<https://marketpublishers.com/r/U17AB58B2638EN.html>

Date: April 2026

Pages: 200

Price: US\$ 4,150.00 (Single User License)

ID: U17AB58B2638EN

## **Abstracts**

According to Statistics MRC, the Global Upcycled Food Ingredients & Byproduct Utilization Market is accounted for \$6 billion in 2026 and is expected to reach \$28 billion by 2034 growing at a CAGR of 21% during the forecast period. Upcycled Food Ingredients & Byproduct Utilization involves transforming food processing byproducts or surplus materials into valuable ingredients for new food products. Examples include using fruit peels, spent grains, or vegetable scraps to create flours, extracts, or functional ingredients. This approach reduces food waste, improves resource efficiency, and creates new revenue streams. Upcycled ingredients often offer nutritional and functional benefits, appealing to sustainability-conscious consumers. Growing interest in circular food systems and waste reduction is driving innovation and adoption in this emerging segment.

Market Dynamics:

Driver:

Rising focus on food waste reduction

Governments, NGOs, and food manufacturers are increasingly prioritizing sustainability

initiatives to minimize waste across the supply chain. Upcycling transforms food byproducts into functional ingredients, reducing environmental impact while creating economic value. Consumers are becoming more conscious of waste reduction, supporting brands that adopt circular economy practices. This trend is reinforced by regulatory frameworks promoting sustainable food production. As food waste continues to be a global challenge, upcycled ingredients are gaining traction as viable solutions.

#### Restraint:

##### Limited consumer awareness and acceptance

Many consumers are unfamiliar with the concept of upcycled food ingredients and may perceive them as inferior or less safe. Lack of clear labeling and marketing further hinders adoption. Cultural preferences and skepticism about sustainability claims also slow consumer uptake. Food manufacturers face challenges in educating consumers and building trust in upcycled products. While awareness campaigns and certifications are emerging, acceptance remains uneven across regions.

#### Opportunity:

##### Innovation in functional upcycled ingredients

Advances in food science are enabling the transformation of byproducts into high-value ingredients such as fibers, proteins, and bioactive compounds. These innovations enhance nutritional profiles and support functional food applications. Companies are investing in R&D to develop upcycled ingredients for bakery, beverages, and nutraceuticals. Partnerships with startups and research institutes are accelerating product development. Functional upcycled ingredients also align with consumer demand for health and wellness products.

#### Threat:

##### Environmental and climate challenges

Extreme weather events and supply chain disruptions can limit the availability of food byproducts for upcycling. Climate change impacts agricultural yields, affecting the consistency of raw material supply. Rising energy costs and resource constraints also challenge sustainable production. Companies may struggle to maintain scalability under volatile environmental conditions. Regulatory pressures related to emissions and

resource use add further complexity.

#### Covid-19 Impact:

The COVID-19 pandemic had a mixed impact on the upcycled food ingredients market. On one hand, disruptions in supply chains and reduced foodservice activity limited the availability of byproducts for upcycling. On the other hand, the pandemic heightened consumer awareness of sustainability and food security. Brands leveraged upcycled ingredients to differentiate themselves and appeal to eco-conscious consumers. The crisis accelerated innovation in packaged foods and functional ingredients, creating new opportunities. Post-pandemic, demand for sustainable and resilient food systems has strengthened.

The food processing waste segment is expected to be the largest during the forecast period

The food processing waste segment is expected to account for the largest market share during the forecast period as rising focus on food waste reduction has intensified efforts to utilize byproducts from food manufacturing. Processing generates significant volumes of byproducts such as peels, pulp, and spent grains. Upcycling these materials into functional ingredients reduces waste and adds economic value. Food manufacturers are increasingly adopting circular practices to meet sustainability goals. Advances in extraction and processing technologies are improving the quality of upcycled ingredients. Regulatory support for waste reduction further strengthens this segment.

The sustainable product development segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the sustainable product development segment is predicted to witness the highest growth rate due to rising focus on food waste reduction, which has driven demand for eco-friendly and innovative food products. Brands are launching new product lines featuring upcycled ingredients to appeal to sustainability-conscious consumers. Sustainable product development supports differentiation in competitive markets. The segment benefits from growing demand for functional foods and clean-label products. Partnerships between food companies and startups are accelerating innovation. Certification programs are also helping build consumer trust in sustainable products.

Region with largest share:

During the forecast period, the Europe region is expected to hold the largest market share owing to strong regulatory frameworks and rising focus on food waste reduction across the region. The EU's circular economy policies and food waste reduction targets are driving adoption of upcycled ingredients. Countries such as Germany, France, and the UK are leading in commercialization. High consumer awareness and demand for sustainable products further support market growth. Food manufacturers in Europe are actively integrating upcycled ingredients into mainstream categories. Partnerships with research institutes and NGOs are accelerating innovation.

#### Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR driven by rapid industrialization and rising focus on food waste reduction in emerging economies. Countries such as China, India, and Southeast Asia are witnessing increasing food waste volumes, creating opportunities for upcycling. Governments are promoting sustainable food systems and investing in waste management infrastructure. Local startups are developing innovative upcycled products tailored to regional preferences. Rising disposable incomes and growing health awareness are boosting demand for functional foods.

#### Key players in the market

Some of the key players in Upcycled Food Ingredients & Byproduct Utilization Market include TerraCycle Inc., ReGrained Inc., Upcycled Foods Inc., Kernal Organics, Spent Goods Company, Renewal Mill Inc., Ripe Revival, The Ugly Company, Outcast Foods, Treasure8, Sustainable Food Ventures, Re-Nuble, Full Harvest Technologies, Imperfect Foods, Do Good Foods and EcoBean.

#### Key Developments:

In February 2026, Upcycled Foods Inc. partnered with leading CPG companies to integrate upcycled flour into bakery portfolios, scaling adoption of brewing and milling byproducts. The collaboration reinforces its mission to mainstream sustainable ingredients.

In December 2025, Renewal Mill launched baking mixes featuring okara flour from soy milk production. The products align with clean-label and plant-based trends, reinforcing its role in sustainable baking.

In May 2025, TerraCycle Inc. expanded its Loop platform to include upcycled food packaging partnerships, integrating byproduct-based materials into reusable containers. The expansion strengthens its leadership in circular economy solutions.

#### Ingredient Types Covered:

Fruit & Vegetable Byproducts

Cereal & Grain Byproducts

Dairy Byproducts

Meat & Seafood Byproducts

Other Ingredient Types

#### Sources Covered:

Food Processing Waste

Agricultural Residues

Retail & Foodservice Waste

Household Food Waste

Industrial Food Byproducts

Other Sources

#### Technologies Covered:

Drying & Dehydration

Fermentation

Extraction & Separation

Enzymatic Processing

Other Technologies

Applications Covered:

Functional Ingredients

Natural Flavoring & Coloring

Food Waste Reduction Solutions

Sustainable Product Development

Other Applications

End Users Covered:

Food & Beverages

Animal Feed

Nutraceuticals & Dietary Supplements

Cosmetics & Personal Care

Pharmaceuticals

Other End Users

Regions Covered:

North America

United States

Canada

Mexico

## Europe

United Kingdom

Germany

France

Italy

Spain

Netherlands

Belgium

Sweden

Switzerland

Poland

Rest of Europe

## Asia Pacific

China

Japan

India

South Korea

Australia

Indonesia

Thailand

Malaysia

Singapore

Vietnam

Rest of Asia Pacific

South America

Brazil

Argentina

Colombia

Chile

Peru

Rest of South America

Rest of the World (RoW)

Middle East

Saudi Arabia

United Arab Emirates

Qatar

Israel

Rest of Middle East

Africa

South Africa

Egypt

Morocco

Rest of Africa

What our report offers:

Market share assessments for the regional and country-level segments

Strategic recommendations for the new entrants

Covers Market data for the years 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034

Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)

Strategic recommendations in key business segments based on the market estimations

Competitive landscaping mapping the key common trends

Company profiling with detailed strategies, financials, and recent developments

Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

#### Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

#### Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

#### Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

## Contents

### **1 EXECUTIVE SUMMARY**

- 1.1 Market Snapshot and Key Highlights
- 1.2 Growth Drivers, Challenges, and Opportunities
- 1.3 Competitive Landscape Overview
- 1.4 Strategic Insights and Recommendations

### **2 RESEARCH FRAMEWORK**

- 2.1 Study Objectives and Scope
- 2.2 Stakeholder Analysis
- 2.3 Research Assumptions and Limitations
- 2.4 Research Methodology
  - 2.4.1 Data Collection (Primary and Secondary)
  - 2.4.2 Data Modeling and Estimation Techniques
  - 2.4.3 Data Validation and Triangulation
  - 2.4.4 Analytical and Forecasting Approach

### **3 MARKET DYNAMICS AND TREND ANALYSIS**

- 3.1 Market Definition and Structure
- 3.2 Key Market Drivers
- 3.3 Market Restraints and Challenges
- 3.4 Growth Opportunities and Investment Hotspots
- 3.5 Industry Threats and Risk Assessment
- 3.6 Technology and Innovation Landscape
- 3.7 Emerging and High-Growth Markets
- 3.8 Regulatory and Policy Environment
- 3.9 Impact of COVID-19 and Recovery Outlook

### **4 COMPETITIVE AND STRATEGIC ASSESSMENT**

- 4.1 Porter's Five Forces Analysis
  - 4.1.1 Supplier Bargaining Power
  - 4.1.2 Buyer Bargaining Power
  - 4.1.3 Threat of Substitutes
  - 4.1.4 Threat of New Entrants

- 4.1.5 Competitive Rivalry
- 4.2 Market Share Analysis of Key Players
- 4.3 Product Benchmarking and Performance Comparison

## **5 GLOBAL UPCYCLED FOOD INGREDIENTS & BYPRODUCT UTILIZATION MARKET, BY INGREDIENT TYPE**

- 5.1 Fruit & Vegetable Byproducts
- 5.2 Cereal & Grain Byproducts
- 5.3 Dairy Byproducts
- 5.4 Meat & Seafood Byproducts
- 5.5 Other Ingredient Types

## **6 GLOBAL UPCYCLED FOOD INGREDIENTS & BYPRODUCT UTILIZATION MARKET, BY SOURCE**

- 6.1 Food Processing Waste
- 6.2 Agricultural Residues
- 6.3 Retail & Foodservice Waste
- 6.4 Household Food Waste
- 6.5 Industrial Food Byproducts
- 6.6 Other Sources

## **7 GLOBAL UPCYCLED FOOD INGREDIENTS & BYPRODUCT UTILIZATION MARKET, BY TECHNOLOGY**

- 7.1 Drying & Dehydration
- 7.2 Fermentation
- 7.3 Extraction & Separation
- 7.4 Enzymatic Processing
- 7.5 Other Technologies

## **8 GLOBAL UPCYCLED FOOD INGREDIENTS & BYPRODUCT UTILIZATION MARKET, BY APPLICATION**

- 8.1 Functional Ingredients
- 8.2 Natural Flavoring & Coloring
- 8.3 Food Waste Reduction Solutions
- 8.4 Sustainable Product Development

## 8.5 Other Applications

# **9 GLOBAL UPCYCLED FOOD INGREDIENTS & BYPRODUCT UTILIZATION MARKET, BY END USER**

## 9.1 Food & Beverages

## 9.2 Animal Feed

## 9.3 Nutraceuticals & Dietary Supplements

## 9.4 Cosmetics & Personal Care

## 9.5 Pharmaceuticals

## 9.6 Other End Users

# **10 GLOBAL UPCYCLED FOOD INGREDIENTS & BYPRODUCT UTILIZATION MARKET, BY GEOGRAPHY**

## 10.1 North America

### 10.1.1 United States

### 10.1.2 Canada

### 10.1.3 Mexico

## 10.2 Europe

### 10.2.1 United Kingdom

### 10.2.2 Germany

### 10.2.3 France

### 10.2.4 Italy

### 10.2.5 Spain

### 10.2.6 Netherlands

### 10.2.7 Belgium

### 10.2.8 Sweden

### 10.2.9 Switzerland

### 10.2.10 Poland

### 10.2.11 Rest of Europe

## 10.3 Asia Pacific

### 10.3.1 China

### 10.3.2 Japan

### 10.3.3 India

### 10.3.4 South Korea

### 10.3.5 Australia

### 10.3.6 Indonesia

### 10.3.7 Thailand

- 10.3.8 Malaysia
- 10.3.9 Singapore
- 10.3.10 Vietnam
- 10.3.11 Rest of Asia Pacific
- 10.4 South America
  - 10.4.1 Brazil
  - 10.4.2 Argentina
  - 10.4.3 Colombia
  - 10.4.4 Chile
  - 10.4.5 Peru
  - 10.4.6 Rest of South America
- 10.5 Rest of the World (RoW)
  - 10.5.1 Middle East
    - 10.5.1.1 Saudi Arabia
    - 10.5.1.2 United Arab Emirates
    - 10.5.1.3 Qatar
    - 10.5.1.4 Israel
    - 10.5.1.5 Rest of Middle East
  - 10.5.2 Africa
    - 10.5.2.1 South Africa
    - 10.5.2.2 Egypt
    - 10.5.2.3 Morocco
    - 10.5.2.4 Rest of Africa

## **11 STRATEGIC MARKET INTELLIGENCE**

- 11.1 Industry Value Network and Supply Chain Assessment
- 11.2 White-Space and Opportunity Mapping
- 11.3 Product Evolution and Market Life Cycle Analysis
- 11.4 Channel, Distributor, and Go-to-Market Assessment

## **12 INDUSTRY DEVELOPMENTS AND STRATEGIC INITIATIVES**

- 12.1 Mergers and Acquisitions
- 12.2 Partnerships, Alliances, and Joint Ventures
- 12.3 New Product Launches and Certifications
- 12.4 Capacity Expansion and Investments
- 12.5 Other Strategic Initiatives

## 13 COMPANY PROFILES

- 13.1 TerraCycle Inc.
- 13.2 ReGrained Inc.
- 13.3 Upcycled Foods Inc.
- 13.4 Kernal Organics
- 13.5 Spent Goods Company
- 13.6 Renewal Mill Inc.
- 13.7 Ripe Revival
- 13.8 The Ugly Company
- 13.9 Outcast Foods
- 13.10 Treasure8
- 13.11 Sustainable Food Ventures
- 13.12 Re-Nuble
- 13.13 Full Harvest Technologies
- 13.14 Imperfect Foods
- 13.15 Do Good Foods
- 13.16 EcoBean

## List Of Tables

### LIST OF TABLES

Table 1 Global Upcycled Food Ingredients & Byproduct Utilization Market Outlook, By Region (2023-2034) (\$MN)

Table 2 Global Upcycled Food Ingredients & Byproduct Utilization Market, By Ingredient Type (2023–2034) (\$MN)

Table 3 Global Upcycled Food Ingredients & Byproduct Utilization Market, By Fruit & Vegetable Byproducts (2023–2034) (\$MN)

Table 4 Global Upcycled Food Ingredients & Byproduct Utilization Market, By Cereal & Grain Byproducts (2023–2034) (\$MN)

Table 5 Global Upcycled Food Ingredients & Byproduct Utilization Market, By Dairy Byproducts (2023–2034) (\$MN)

Table 6 Global Upcycled Food Ingredients & Byproduct Utilization Market, By Meat & Seafood Byproducts (2023–2034) (\$MN)

Table 7 Global Upcycled Food Ingredients & Byproduct Utilization Market, By Other Ingredient Types (2023–2034) (\$MN)

Table 8 Global Upcycled Food Ingredients & Byproduct Utilization Market, By Source (2023–2034) (\$MN)

Table 9 Global Upcycled Food Ingredients & Byproduct Utilization Market, By Food Processing Waste (2023–2034) (\$MN)

Table 10 Global Upcycled Food Ingredients & Byproduct Utilization Market, By Agricultural Residues (2023–2034) (\$MN)

Table 11 Global Upcycled Food Ingredients & Byproduct Utilization Market, By Retail & Foodservice Waste (2023–2034) (\$MN)

Table 12 Global Upcycled Food Ingredients & Byproduct Utilization Market, By Household Food Waste (2023–2034) (\$MN)

Table 13 Global Upcycled Food Ingredients & Byproduct Utilization Market, By Industrial Food Byproducts (2023–2034) (\$MN)

Table 14 Global Upcycled Food Ingredients & Byproduct Utilization Market, By Other Sources (2023–2034) (\$MN)

Table 15 Global Upcycled Food Ingredients & Byproduct Utilization Market, By Technology (2023–2034) (\$MN)

Table 16 Global Upcycled Food Ingredients & Byproduct Utilization Market, By Drying & Dehydration (2023–2034) (\$MN)

Table 17 Global Upcycled Food Ingredients & Byproduct Utilization Market, By Fermentation (2023–2034) (\$MN)

Table 18 Global Upcycled Food Ingredients & Byproduct Utilization Market, By

Extraction & Separation (2023–2034) (\$MN)

Table 19 Global Upcycled Food Ingredients & Byproduct Utilization Market, By Enzymatic Processing (2023–2034) (\$MN)

Table 20 Global Upcycled Food Ingredients & Byproduct Utilization Market, By Other Technologies (2023–2034) (\$MN)

Table 21 Global Upcycled Food Ingredients & Byproduct Utilization Market, By Application (2023–2034) (\$MN)

Table 22 Global Upcycled Food Ingredients & Byproduct Utilization Market, By Functional Ingredients (2023–2034) (\$MN)

Table 23 Global Upcycled Food Ingredients & Byproduct Utilization Market, By Natural Flavoring & Coloring (2023–2034) (\$MN)

Table 24 Global Upcycled Food Ingredients & Byproduct Utilization Market, By Food Waste Reduction Solutions (2023–2034) (\$MN)

Table 25 Global Upcycled Food Ingredients & Byproduct Utilization Market, By Sustainable Product Development (2023–2034) (\$MN)

Table 26 Global Upcycled Food Ingredients & Byproduct Utilization Market, By Other Applications (2023–2034) (\$MN)

Table 27 Global Upcycled Food Ingredients & Byproduct Utilization Market, By End User (2023–2034) (\$MN)

Table 28 Global Upcycled Food Ingredients & Byproduct Utilization Market, By Food & Beverages (2023–2034) (\$MN)

Table 29 Global Upcycled Food Ingredients & Byproduct Utilization Market, By Animal Feed (2023–2034) (\$MN)

Table 30 Global Upcycled Food Ingredients & Byproduct Utilization Market, By Nutraceuticals & Dietary Supplements (2023–2034) (\$MN)

Table 31 Global Upcycled Food Ingredients & Byproduct Utilization Market, By Cosmetics & Personal Care (2023–2034) (\$MN)

Table 32 Global Upcycled Food Ingredients & Byproduct Utilization Market, By Pharmaceuticals (2023–2034) (\$MN)

Table 33 Global Upcycled Food Ingredients & Byproduct Utilization Market, By Other End Users (2023–2034) (\$MN)

Note: Tables for North America, Europe, APAC, South America, and Rest of the World (RoW) are also represented in the same manner as above.

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