CALIFORNIA DAIRY INNOVATION CENTER

REAL CALIFORNIA MILK

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# Product Development Software Overview

Date: August 19, 2025

# Overview

Presentation comparing key software tools used in food R&D, labeling, costing, and project mangement

>> Who >>

- Small to Midsize Dairy Product Developers in California
- Startup and early-stage companies

>> Criteria >>

- Key Features
- User Experience
- Pricing
- Suitability & Best Fit use cases

>> Benefits >>

- Help smaller businesses to control costs and tailor for specific product development

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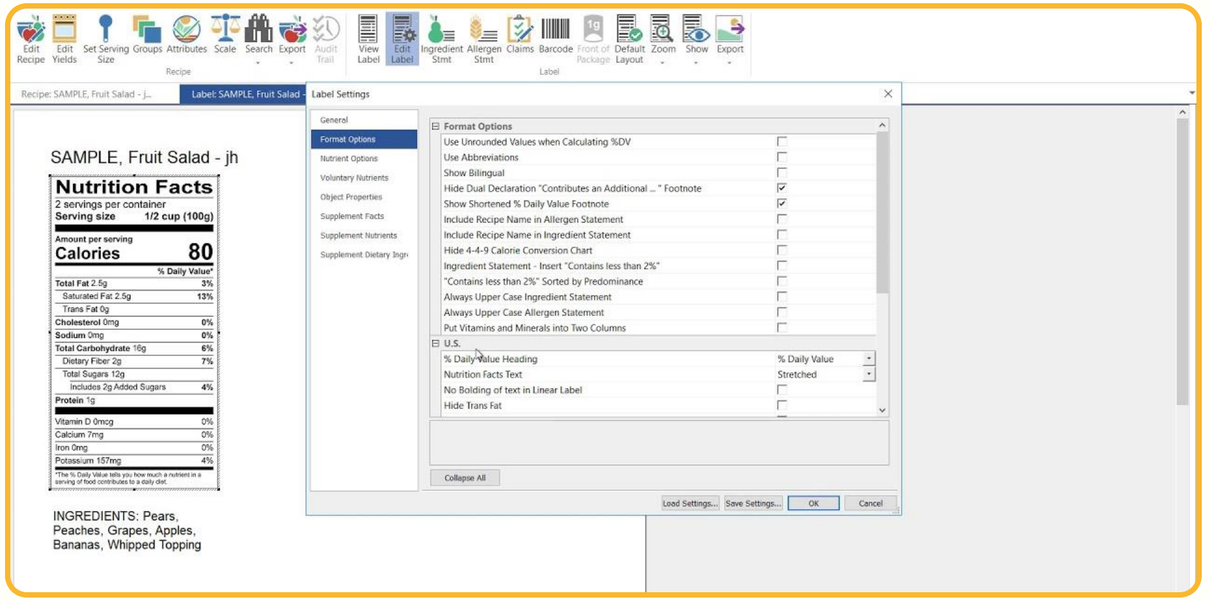
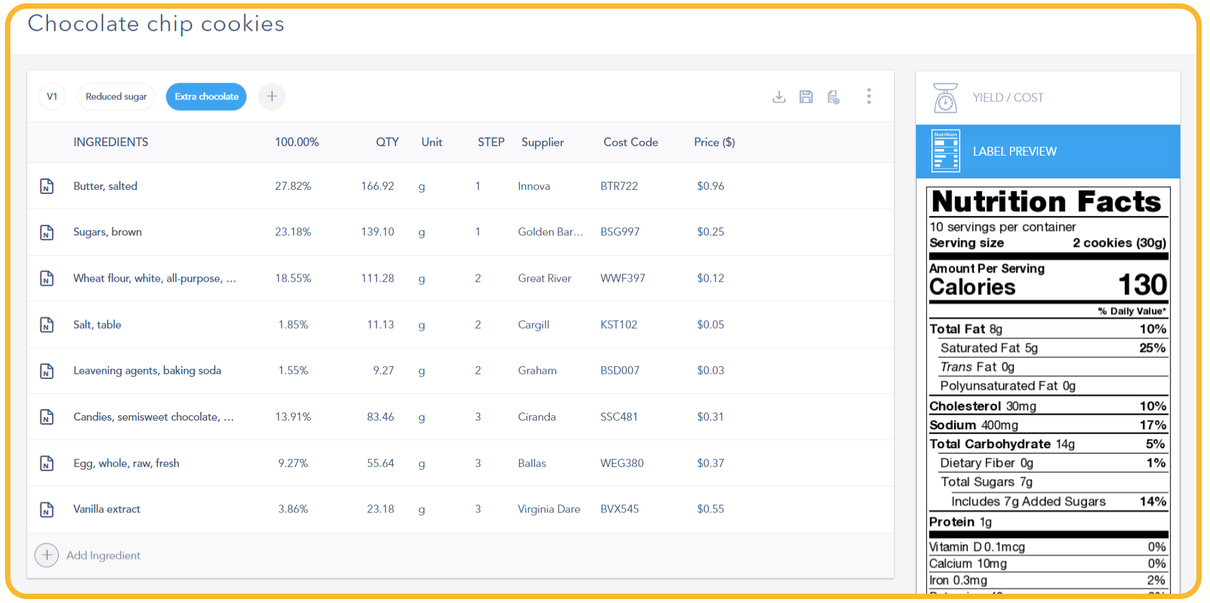
# Genesis

- **Overview:** Food formulation + labeling software
- **Key features:** Recipe management, FDA compliance, nutrition labels, audit tracking
- **Pricing: $$$** , Quote-based, enterprise-level
- **Best for:** Large manufacturers, complex regulatory needs




# Flavor Studio

- **Overview:** Cloud-based PLM tool for food & beverage
- **Key features:** AI flavor pairing, recipe management, sensory testing, CRM integration
- **Pricing: $$$** , $100–$165/user/month, enterprise available
- **Best for:** Mid-size companies focused on flavor innovation




*PLM = product lifecycle management

# Tech Wizard (Owl Software)

**Overview:**

R&D tool with cost-efficient formulation

**Key Features:**

Ingredient formulation, least-cost formulation, dairy-specific tools, reverse engineering, spec sheet generation

**Pricing: $**

One-time or subscription (more affordable opt. vs. competitors)

**Best For:**

Dairy, frozen desserts, nutrient drinks, bars; teams needing flexible batching & advanced calculations

# Creating Ice Cream in Tech Wizard

## PRODUCT EXAMPLE
## ICE CREAM

TechWizard™

William works for Blandings Specialty Foods as a product development specialist. Today, he is developing an ice cream formula using TechWizard™. William would like to do the following:

- Create a vanilla ice cream recipe that contains 12 % milk fat, 11 % MSNF (milk solids not fat), between 40 and 41 % total solids, 14% sucrose solids, 3 % corn syrup solids, 0.35% stabilizer solids, and 0.15% emulsifier.
- Determine the overrun required for a ½ gallon of ice cream to weigh 2.35 lbs.
- Determine the total ingredient amounts to make 10,000 gal. of finished ice cream.
- Create a batch sheet for 100 gal. of mix.
- Create a nutrition facts panel and ingredient list.

### Create Recipe

William starts by entering the composition he requires. He selects the desired properties, milk fat (also referred to as butterfat), MSNF, sucrose solids, corn syrup solids, stabilizer solids, and emulsifier (**A**). Next, he enters his desired composition (**B**).

Remove All | Delete | Reset | Set to Min

| Property # 7 | Composition | Units to Use | Diag | Min | Max |
|---|---|---|---|---|---|
| Milkfat | | % | | 12.000 | 12.000 |
| MSNF | | % | | 11.000 | 11.000 |
| Total Solids | | % | | 40.000 | 41.000 |
| Sucrose Solids | | % | | 14.000 | 14.000 |
| Corn Syrup Solids | | % | | 3.000 | 3.000 |
| Stabilizer Solids | | % | | 0.350 | 0.350 |
| Emulsifier | | g/100g | | 0.150 | 0.150 |

William selects the ingredients he will used to make the formula. As he selects each ingredient, the ingredient description (**C**), price (**D**), and composition (not shown) are automatically retrieved from the ingredient file. William needs to lock in the amount of vanilla flavoring that is used in this formula. He uses the recipe entry feature (not shown) to set the usage level to 20 fl. oz. per 100 gallon of mix. This corresponds to 0.125 % vanilla (**E**).

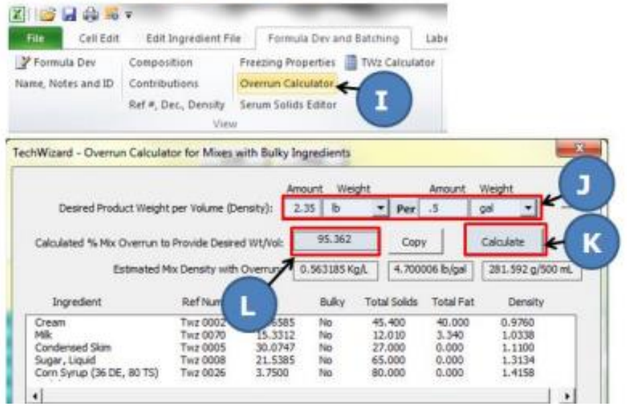
Sort | Remove All | Delete | Clear | Reset

| Ref # | Ingredient # 8 | % (Wt./Wt.) | Min | Max | Diag | Price per Lb. |
|---|---|---|---|---|---|---|
| Twz 0002 | Cream | | 0.000 | 100.000 | | 2.250 |
| Twz 0070 | Milk | | 0.000 | 100.000 | | 1.150 |
| Twz 0005 | Condensed Skim | | 0.000 | 100.000 | | 1.750 |
| Twz 0008 | Sugar, Liquid | | 0.000 | 100.000 | | 0.200 |
| Twz 0026 | Corn Syrup (36 DE, 80 TS) | | 0.000 | 100.000 | | 0.160 |
| Twz 0109 | Stabilizer | | 0.000 | 100.000 | | 2.250 |
| Twz 0042 | Emulsifier | | 0.000 | 100.000 | | 3.500 |
| Twz 0053 | Flvr, Vanilla, pure extract | | 0.125 | 0.125 | | 16.000 |
| | Total | 100.000 | | | | |

William presses the **Formulate** button (**F**). This instructs TechWizard™ to find the best combination of ingredients to meet all his composition requirements while minimizing cost. The percent of each ingredient to use (**G**) is calculated and the formula cost per pound and per kilogram are reported (**H**).

### Determine Overrun, Total Amount, and Costs

To assist with scheduling the production of this ice cream, William needs to determine the total ingredient amounts for making 20,000 ½ gallon containers of ice cream or 10,000 gallons of finished ice cream. He also needs to determine the overrun required for a ½ gallon container of ice cream to weigh 2.35 lbs.




William determines the overrun first. He clicks the **Overrun Calculator** option (**I**) and the Overrun Calculator window appears. He enters 2.35 lbs. per 0.5 gal. (**J**) and presses the **Calculate** button (**K**). TechWizard™ calculates his overrun value, 95.362 % (**L**). This is the overrun necessary to make a 0.5 gallon container of his vanilla ice cream weigh 2.35 lbs.

# LabelCalc

**Overview:**

FDA-compliant nutrition labeling software

**Key Features:**

Nutrition/ingredient labels, allergen tracking, recipe management

**Pricing: $$**

Contact sales, unlimited downloads for purchased labels

**Best For:**

Startups, food manufacturers needing simple, compliant labels

# ReciPal

**Overview:**

Nutrition analysis + labeling tool

**Key Features:**

AI ingredient creation, recipe costing (labor, overhead), inventory management, allergen tracking

**Pricing: $**

Pay-as-you-go ($29/recipe) or subscription ($59/month)

**Best For:**

Small-mid businesses needing fast, customizable labels & costing

# NutraCoster (Sweetware)

**Overview:**

Nutrition & cost analysis software

**Key Features:**

Nutrition facts labels (US, Canada, Mexico), detailed cost breakdown (materials, labor, packaging), recipe scaling

**Pricing: $**

~$399 one-time, free trial available

**Best For:**

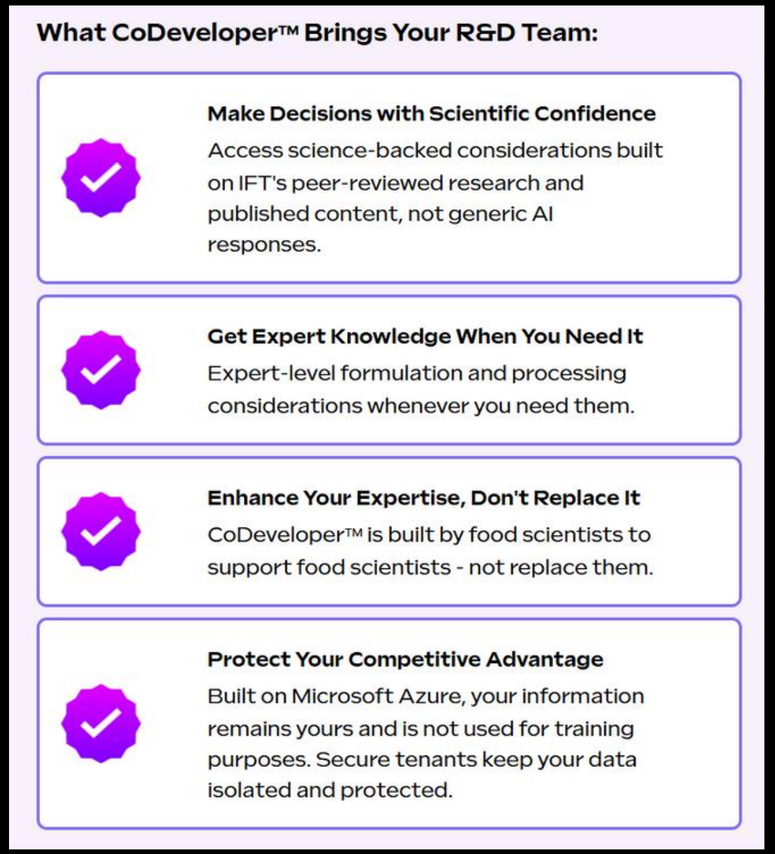
Adaptable to various industries and needs.

https://www.sweetware.com

# NutraCoster (Sweetware)

| Labeling Regulations / Government Web Sites | |
|---|---|
| **United States Regulations - General Information** | Top |
| USDA - Food and Nutrition | USDA links about food and nutrition. |
| USDA - Nutrition Database | FoodData Central - USDA Nutrient Databases - includes National Nutrient Database for Standard Reference Legacy Release (SR Legacy). |
| NIST - Uniform Packaging and Labeling Regulation | Section A.6 has rules for Net Weight declarations. |
| NIST - Net Contents of Packaged Goods | Accuracy of Net Weight declarations. |
| **United States Regulations - Nutrition Labeling** | Top |
| US Nutrition Labeling Regulations | United States Code of Federal Regulations (CFR), Title 21, Part 101 - Food and Drugs. |
| US Menu and Vending Labeling Overview | Menu and Vending Machines Labeling Requirements. |
| FDA Food Labeling Guide | Food Labeling & Nutrition Overview. |
| FDA - Nutrient Content Claims | Information regarding the criteria by which products qualify for a nutrient content claim. |
| FDA - Compliance Dates, Added Sugars, Vitamins/Minerals | Guidance - Q&A regarding Compliance Dates, Added Sugars, Amounts and Rounding of Vitamins and Minerals |
| FDA Guidance Serving Sizes | Guidance - Serving Sizes, Reference Amounts, Dual-Column Labeling |
| FDA Guidance Reference Amounts | Guidance - Reference Amount examples |
| FDA Guidance Allulose | Guidance - Declaration of Allulose on Nutrition Labels |
| FDA - All Labeling Guidances | A list of all FDA food labeling guidances |

| Services | | |
|---|---|---|
| **Recipe Analysis** | $95 per label | See Nutrition Analysis Services for more information |
| **Recipe Revisions** | $50 per revision | |
| **Additional Serving Sizes** | $40 per serving size | |
| **Additional Label Styles** | $30 per label style | |




CoDeveloper
Powered by IFT

# CoDeveloper (IFT)

## Overview:

New AI-powered R&D tool by IFT (launched in July 2025)

## Key Features:

AI “Sous” assistant, formulation guidance, reverse engineering, R&D templates, collaborative project management, access to IFT resources

## Pricing: $

Paid subscription or enterprise license (IFT member discounts), free demo

## Best For:

Startups & R&D teams needing structured, science-backed development workflows

# BatchMaster

**Overview:**

ERP for process manufacturers

**Key Features:**

Formula management, batch tracking, inventory, production scheduling, quality control, regulatory compliance

**Pricing: $$$**

Enterprise-level, demo available

**Best For:**

Mid-large manufacturers with full ERP needs

*ERP = Enterprise Resource Planning

# Tastewise

**Overview:**

AI-powered marketing intelligence tool for food trend forecasting and consumer insight.

**Key Features:**

Real-time trend tracking, consumer behavior and social statistics, ingredient and functional benefit analysis, product innovation support

**Pricing: $$$**

Enterprise-level, demo available

**Best For:**

R&D teams aligning product innovation with trends

source:

**Food Label Maker vs. GENESIS R&D vs. ReciPal**

Compare Genesis R&D, Food Label Maker and Recipal on cost, features, and best fit. Find out...

Food Label Maker / Aug 25, 2023

# Nutrition Labeling & Compliance Software Comparisons

| Software | Key Features | Cost | Best For |
|---|---|---|---|
| **Food Label Maker** | • Customizable labels<br>• Simplicity<br>• User-friendliness and ease of use<br>• FDA-compliant nutritional analysis<br>• Prompt customer support<br>• Expert consultation<br>• Scalability | $49/month or $24.9/month (yearly) | • Food technology companies<br>• Food Startups<br>• Individuals creating new recipes<br>• Meal planning and catering companies<br>• Restaurants, cafes<br>• Bakeries<br>• Food manufacturers and processors |
| **Esha** | • Ingredient database<br>• Nutritional analysis<br>• FDA Compliance<br>• Recipe formulation<br>• Allergen identification<br>• Label customization<br>• Reporting and analysis<br>• User support | Need to contact vendor (quoting system) | • Food manufacturing companies<br>• Supplement manufacturing companies<br>• Food service companies<br>• Universities<br>• Students<br>• Health and wellness |
| **Recipal** | • Comprehensive nutrition analysis<br>• Recipe costing<br>• Allergen identification<br>• FDA-compliant labels<br>• User-friendly interface<br>• Customer support<br>• Scalability | Varies (from $19/recipe to $750/sample for lab-based analysis) | • Food businesses<br>• Nutritionists<br>• Schools<br>• Co-packing companies<br>• Restaurants |
| **Genesis R&D** | • Government compliant nutrition facts panel generation<br>• Virtual food formulation capabilities<br>• Extensive ingredient database (ESHA database)<br>• Recipe nutritional analysis<br>• Regulatory compliance tools<br>• Label formatting for multiple countries<br>• Cost analysis and ingredient optimization | High, enterprise pricing - contact vendor | • Large food manufacturers<br>• Companies that need complex formulation needs<br>• Regulatory heavy environment<br>• Enterprise-level operations |
| **NutraCoster** | • Nutrition facts label generation (US, Canada, Mexico)<br>• Recipe costing and cost analysis<br>• Material and packaging cost calculation<br>• Menu nutrition analysis<br>• Ingredient database<br>• Recipe scaling | Low-medium (~$200-$500/year) | • Bakeries<br>• Restaurants<br>• Food manufacturers focused on cost control<br>• Businesses needing combined nutrition and cost analysis<br>• Small to medium operations |
| **Tech Wizard (Owl Software)** | • Ingredient formulation<br>• Nutrition and ingredient labeling (FDA-compliant)<br>• Cost analysis & least-cost formulation<br>• Spec sheet generation<br>• Allergen tracking<br>• Dairy-specific formulation tools (ice content, cheese yield, etc.)<br>• Reverse engineering existing products | Low-Medium<br>• One-time license or subscription<br>(no free version but evaluation available) | • Food and dairy manufacturers<br>• R&D teams working on nutrient drinks, bars, cultures/frozen dairy, cheese<br>• Companies that need cost-effective, flexible formulation |

# R&D/PLM/Sensory Software Comparisons

| Software | Key Features | Cost | Project Management | Sensory Testing | Best For |
|---|---|---|---|---|---|
| **Genesis R&D** | • Government-compliant nutrition facts panel<br>• Virtual food formulation capabilities<br>• Extensive ingredient database<br>• Regulatory compliance tools<br>• Label formatting<br>• Cost analysis + optimization | High, enterprise pricing | Basic project tracking and recipe management | No dedicated sensory testing features | • Large manufacturers<br>• Established companies with complex formulations<br>• Regulatory heavy<br>• Enterprise<br>-level operations |
| **Flavor Studio** | • Recipe management and formulation<br>• Nutritional analysis and labeling<br>• Sensory testing capabilities<br>• Customer relationship management (CRM)<br>• Taste test management<br>• Flavor pairing suggestions<br>• Cost analysis<br>• End-to-end product | Medium (Cloud-based subscription) | Full project lifecycle management with timeless and collaboration tools | Yes<br>Built-in sensory testing and taste test management capabilities | • Mid-sized food and beverage companies<br>• Businesses focused on flavor development<br>• Companies want to integrate PLM solutions |
| **BatchMaster** | • Process manufacturing ERP<br>• Recipe and formula management<br>• Batch tracking and traceability<br>• Quality control + Inventory management<br>• Production scheduling<br>• Regulatory compliance<br>• Cost accounting | High (Enterprise level pricing) | Manufacture-focused project management with production scheduling | No<br>Have quality control testing but not dedicated sensory testing | • Mid to large food manufacturers needing full ERP functionality<br>• Process-heavy manufacturing operations<br>• Businesses requiring comprehensive traceability |
| **Tech Wizard (Owl Software)** | • Ingredient formulation<br>• Nutrition and ingredient labeling (FDA-compliant)<br>• Cost analysis & least-cost formulation<br>• Spec sheet generation<br>• Allergen tracking<br>• Dairy-specific formulation tools (ice content, cheese yield, etc.)<br>• Reverse engineering existing products | Low-Medium (one time or subscription) | Basic project tracking, spec sheets, formulation adjustments; multi-user supported | No | • Dairy<br>• Frozen dessert<br>• Nutrient drink<br>• Bar manufacturers<br>• Cost-efficient formulation + reporting<br>• Companies that require advanced batching calculations |
| **CoDeveloper (IFT)** | • AI “Sous” for formulation assistance and reverse engineering<br>• Product development roadmaps<br>• Templates for R&D planning, commercialization<br>• Collaborative project management tools<br>• Access to curated IFT resources | Paid subscription or enterprise license (special rates for IFT members; free demo available) | Excellent: guided workflows, checklists, team collaboration, stage-gates | No | • R&D teams<br>• Startups<br>• Companies seeking structure / want to apply best practices from concept to commercialization |

**Legend:**

✓✓✓ = Excellent

✓✓ = Good

✓ = Basic

✗ = Not Available

# Software Feature Comparisons Matrix

| Feature | Genesis R&D | Flavor Studio | ReciPal | LabelCalc | NutraCoster | Tech Wizard | BatchMaster | CoDeveloper |
|---|---|---|---|---|---|---|---|---|
| Nutrition Labels | ✓✓✓ | ✓✓ | ✓✓ | ✓✓ | ✓✓ | ✓✓ | ✓ | ✓ |
| Recipe Management | ✓✓✓ | ✓✓✓ | ✓✓ | ✓✓ | ✓✓ | ✓✓ | ✓✓✓ | ✓✓ |
| Cost Analysis | ✓✓ | ✓✓ | ✓ | ✓ | ✓✓✓ | ✓✓✓ | ✓✓✓ | ✓ |
| Sensory Testing | ✗ | ✓✓✓ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ |
| Project Management | ✓ | ✓✓✓ | ✓ | ✓ | ✓ | ✓ | ✓✓✓ | ✓✓✓ |
| Regulatory Compliance | ✓✓✓ | ✓✓ | ✓✓ | ✓✓ | ✓✓ | ✓✓ | ✓✓✓ | ✓✓ (science-based) |
| Batch Tracking | ✓ | ✓✓ | ✓ | ✓ | ✓ | ✓ | ✓✓✓ | ✗ |
| Multi-country Support | ✓✓✓ | ✓✓ | ✓✓ | ✓ | ✓✓ | ✓✓✓ | ✓✓ | ✗ |

# Suggestions for Choosing the Right Tool

| Company Need | Recommended Tools |
|---|---|
| Fast, low-budget label setup | ReciPal, LabelCalc |
| Complex dairy formulation | Tech Wizard |
| Project workflow & AI guidance | CoDeveloper (IFT) |
| Cost-focused product planning | NutraCoster |
| Enterprise ERP & compliance | BatchMaster, Genesis |
| Sensory & PLM for flavor dev | Flavor Studio |
| Trend insights for R&D/marketing | Tastewise |