

Ensuring the Future of Food Safety through Electronic Systems

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Quality Manager
Bluegrass Dairy and Food, Inc.



Personal Background

- Ten years experience in food with ConAgra Foods, Watershed Foods, TerraVia, and Bluegrass Dairy and Food.
- Develop strong and sustainable food safety systems.
- Former corporate auditor that audited suppliers, co-manufacturers, and company-owned plants.
- Developed, implemented, and ensured sustainability of GFSI programs in over 20 various facilities across the industry.
- Experience in working with Dairy, Powdered Ingredients and Feed Materials, Oils, Freeze Dried Ingredients, Eggs, Peanut Butter, and Micro Algae facilities.

TerraVia Holdings

- TerraVia is formerly known as Solazyme, Inc. Facilities located in South San Francisco, CA; Peoria, IL; and Orindiuva, SP, Brazil.
- Bio-tech company that has developed technology for sterile fermentations of Golden Chlorella micro-algae being used in unlimited applications.
- In 2016 Solazyme was changed to TerraVia in an effort to move the company focus solely on food, nutrition, personal care, and animal feed.

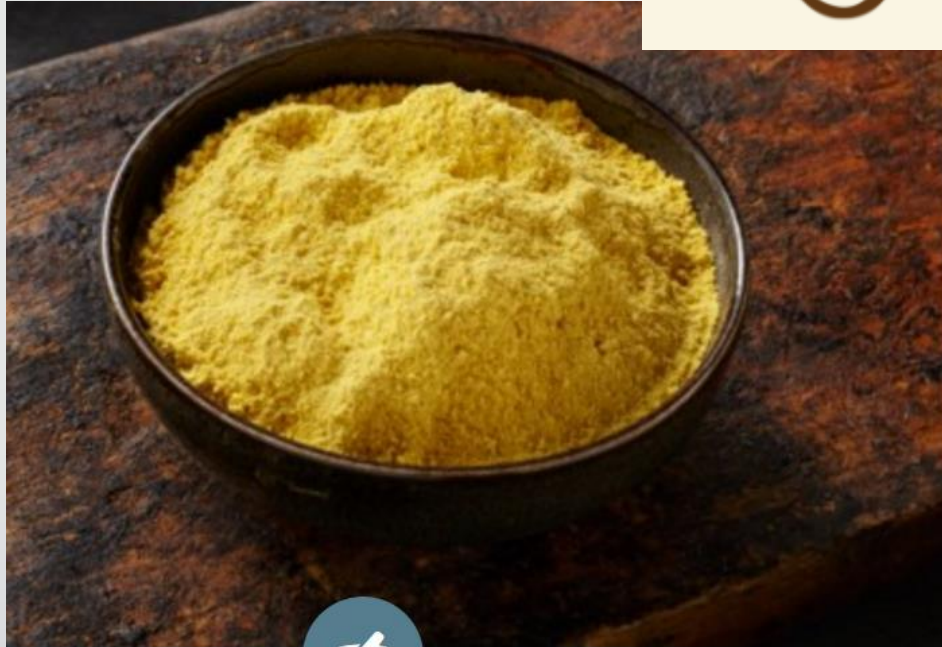
TerraVia Facilities



Peoria, IL

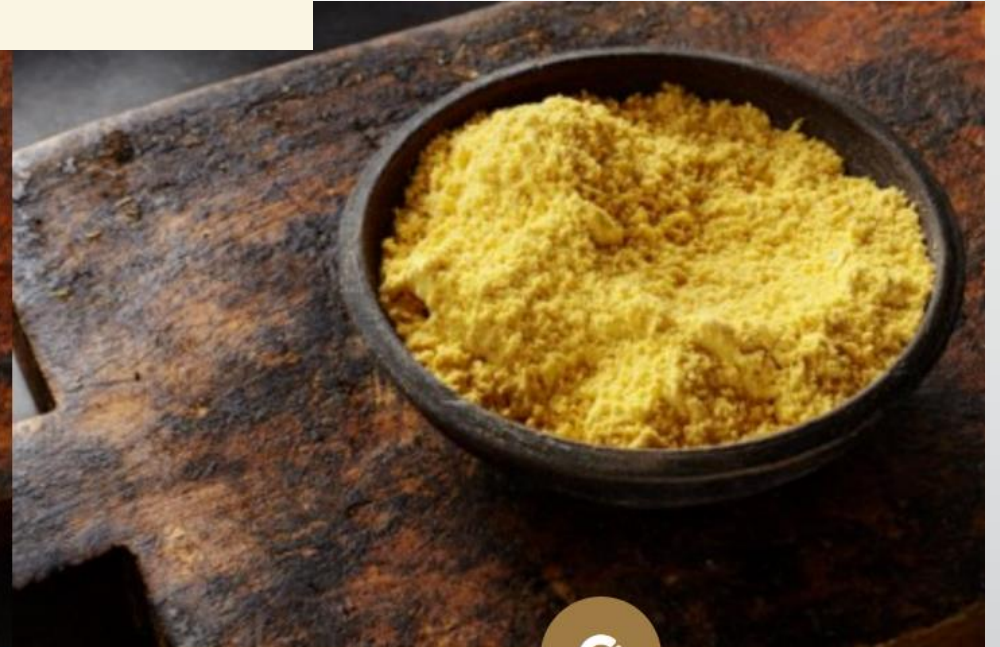


Solazyme Bunge Renewables
Orindiuva, SP, Brazil



LIPID-RICH WHOLE ALGAE

- Reduce fat without compromise
- Replace or reduce butter, oils and egg yolks in recipes
- Maintain or enhance indulgent taste, texture and mouthfeel



PROTEIN-RICH WHOLE ALGAE

- Fortify foods with a new, vegan protein
- Free from known allergens and gluten-free
- Adds fiber and micronutrients



ULTRA OMEGA-9 ALGAE OIL

AlgaWise® Algae Oils give your formulations the edge they need to perform better for your food's flavor, for nutrition, and our planet's future.
Taste-Wise. Health-Wise. Earth-Wise.



ALGAE BUTTER STRUCTURING HARD-STOCK

AlgaWise® Algae Oils give your formulations the edge they need to perform better for your food's flavor, for nutrition, and our planet's future.
Taste-Wise. Health-Wise. Earth-Wise.

ALGAWISE[®]
Algae Oils

ALGAWISE[®] FOR IN-HOME USE.

Bring the delicious innovation of AlgaWise[®] Algae Oils into your home kitchen. New culinary oil fit for all your healthy, everyday recipes on shelves now.



Bluegrass Dairy and Food, Inc.

- Located in the heart of bluegrass country, Bluegrass Dairy & Food is a leading supplier of specialty ingredients for the food industry. Our focus is dairy but our capabilities go far beyond.
- With production facilities in both Glasgow and Springfield, Kentucky. There is also a facility located in Dawson, MN that specializes in whey powders and whey protein isolates. We offer our extensive line of products and services that make us more than a traditional dairy company.

Glasgow, KY Location



Products

Bluegrass Dairy & Food currently offer box, tower, roller and rotary drying, as well as extensive dry or liquid [blending](#) capabilities. This diverse production allows us to create ingredients with different physical characteristics. From fine powders to larger particles, we can provide ingredients for any food application.




Recent Awards, Recognitions, and Certifications

- *World Championship Cheese Contest* – Best In Class (Monterey Jack)
- *Incredible Food Show* – Best Of Show Savory (Smoked Cheddar)
- *Governor Phil Bredesen's Award* (Monterey Jack)
- *Kentucky State Fair* - Cheddar Cheese (Gold Medal) Aged Cheddar Cheese (Gold Medal) Processed American Cheese (Gold Medal) Sweet Cream Butter (Gold Medal)

SQF Level 2 Certification

Organic Certification

Kosher and Halal Certified



What caused the need for
a different solution?

What did the previous systems look like?



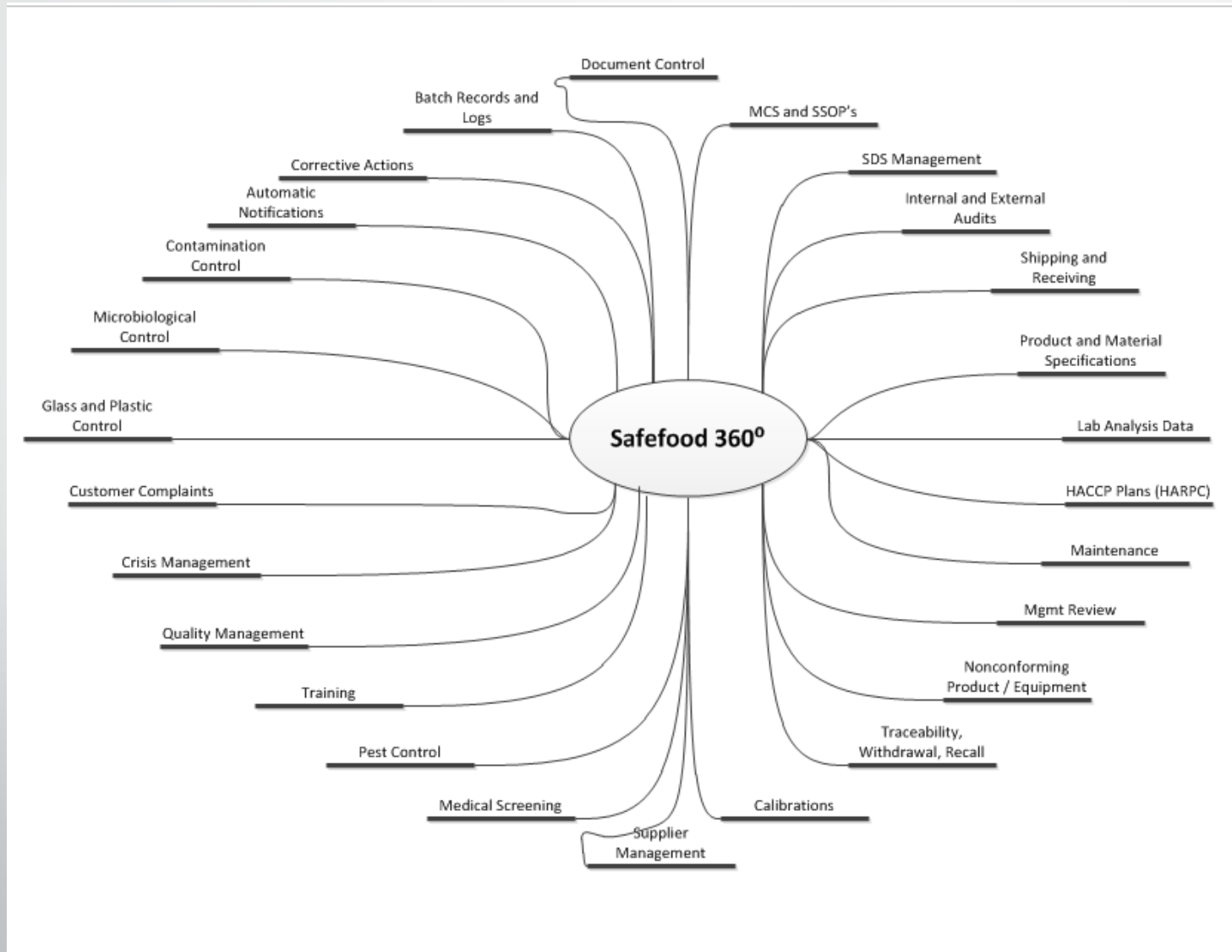
Food Safety Modernization Act / Preventive Controls



The Potential Impact



"THE" Solution



Evaluation of the System

- A list of critical needs were defined by the team.
- Shareholders were determined for the critical needs by the team.
- Shareholders and Quality worked together to test loading documents, audits, holds, etc.
- As a team, we tried to cause as many errors that we could to see how the system would behave and how effective it is.
- As issues were identified, communication to Safefood 360.

Executive Buy In

- Executive buy-in is imperative.
 - Build a business case that shows the current state of affairs, what is required, and a detailed plan with SMART Goals identified to report on for monthly status reports.
 - Use the White Paper reference documents provided by Safefood 360°.
 - Give a demonstration of the system identifying the critical needs that have been identified.



How was Safefood Implemented?

Implementation

- A list of all modules was created and reviewed by the team.



HACCP / HARPC	Document Control
Hazard Database	Maintenance
Customer Complaints	Codes of Practice
Corrective Action	Contamination Control (FM)
Auditing	Microbiological Control
Management Review	Glass and Plastic Control
Nonconformance	Pest Control
Business Process	Medical Screening
Recall and Withdrawal	Traceability
Quality Management	Training
Calibration	Supplier Management
Cleaning	Supplier Portal
Traceability	Employee Database
Training	Product and Materials
Supplier Management	Categories
Supplier Portal	Contacts
Monitoring	Items
Monitoring	Tests
Receiving	Alerts
Batching	Reports

- Which are most important?

Implementation

- Develop a Project Charter with the team.

PROJECT CHARTER

Project Name: Project PDI (Peoria Data Integration)

Project Leader(s): Mike Wernigk, Kuldeep Tanwar, and Mike Beck

Roles and Responsibilities:

Mike Wernigk	Project coordinator, customization of modules, testing, and training
Jaclyn Anderson	Customization of modules, testing, and training
Carissa Brown	IT Support, Customization of Modules, and Testing
Kuldeep Tanwar	IT Support and Guidance, Security, Hardware Specification and Implementation
Mike Beck	IT Support and Guidance, Security, Hardware Specification and Implementation

Current Baseline:

Solazyme Peoria is a cGMP compliant facility and certified with a GFSI standard through SQF. The facility has all of the required systems and programs in place to maintain cGMP and SQF compliance. However, the systems are not integrated. Records are mostly paper-based. In addition the FDA is in the process of rolling out the final rules for the Food Safety and Modernization Act (FSMA). The regulations will be a significant change to cGMPs.

Documentation of verification and validation of systems as well as documentation for corrective actions for deviations will be key to compliance. FSMA also gives the FDA full access to all records in the facility further building the necessity for good documentation and strong systems that are not personnel dependent. Congress has also changed the FDA's policing powers. The FDA will no longer leave a Form-483 for non-compliances and allow a written response for non-conformances. Non-conformances will

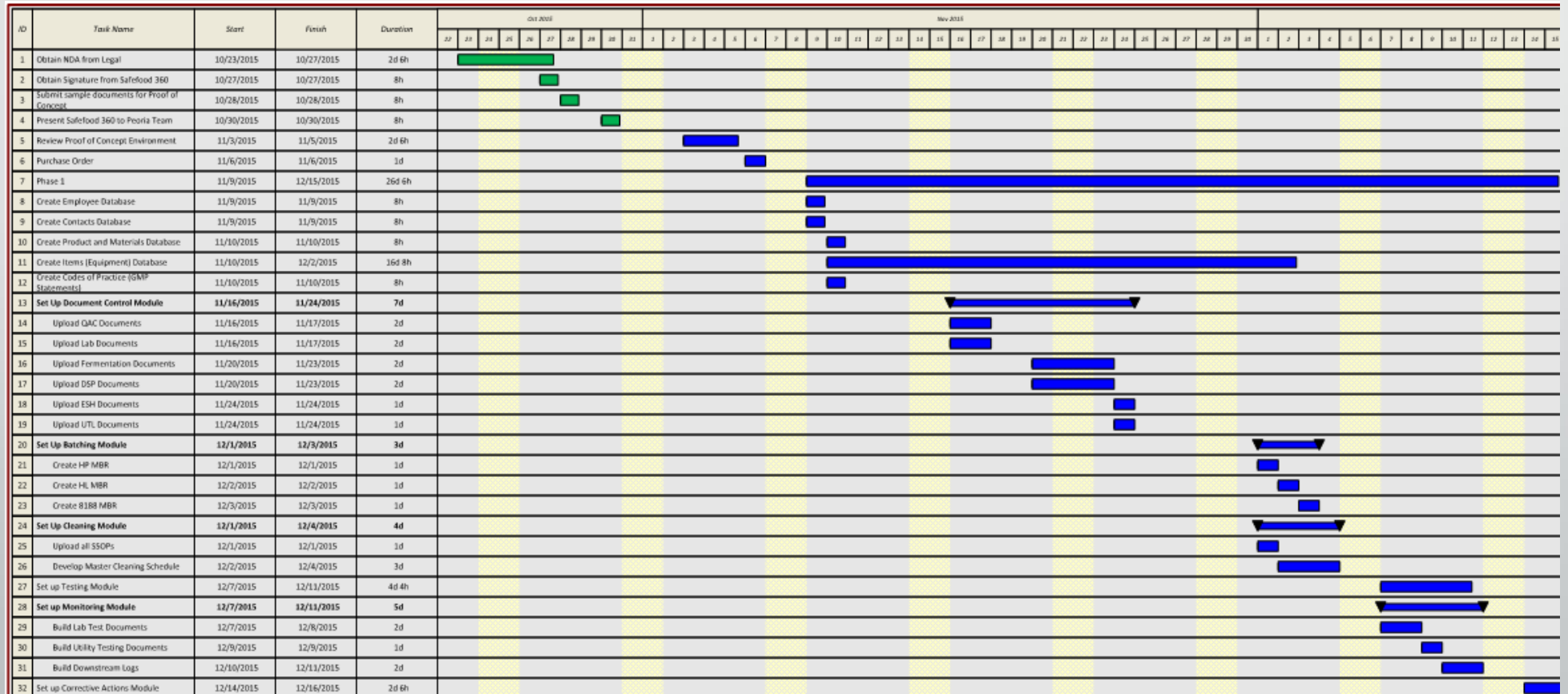
Implementation

- List was prioritized by the team to determine three defined phases.

Module	Mike	Jaclyn	Bryan	Dana	Avg.
Audits	1	1	1	1	1
Batching (MBRs and Log Sheets)	3	2	1	2	2
Business Continuity / Crisis Mgmt	3	3	3	3	3
Calibration	1	1	2	1	1.25
Cleaning	1	1	1	1	1
Contamination Control	2	2	2	2	2
Corrective Actions	1	1	1	1	1
Customer Complaints	3	3	2	3	2.75
Document Control	1	1	1	1	1
Glass and Plastic Control	2	2	2	1	1.75
HACCP/HARPC	1	1	1	1	1
Lab Tests	1	2	2	2	1.75
Management Review	2	2	2	2	2
Medical Screening	3	3	3	3	3
Microbiological Control	2	2	2	2	2
Nonconformance (Holds)	2	1	2	2	1.75
Pest Control	3	3	3	3	3
Product and Materials	1	1	1	1	1
Quality Management System	3	3	3	3	3
Recall and Withdrawal	3	3	2	2	2.5
Receiving	2	2	3	2	2.25
Supplier Management	2	3	3	3	2.75
Traceability	3	3	3	3	3
Training	2	2	3	3	2.5


Implementation

- Determined 3-Phase Implementation Schedule.
- Develop Project GANTT Chart with specific toll gates as shown below.



Additional Implementation Suggestions


- Early on get buy in from the users. Keep them informed and updated on status.
- Ask for volunteers for those that would like to assist with implementation and testing.
- Train the volunteers as Super Users.
- As Super Users are trained, have them test the module to ensure it performs effectively and efficiently.
- Once the module is tested and accepted, then train employees.
- Follow up daily with users to ensure the system is meeting their expectations and needs.



What modules provided
most benefits the easiest?

Modules

- Document Control
 - Document Routing
 - Management Review
- Food Safety Plan
 - Hazard Analysis with Hazard Database
- Auditing
- Corrective Action
- Cleaning
- Customer Complaints



Tips and Suggestions

Tips and Suggestions

- Be realistic when setting your implementation schedule.
- Be flexible.
- Be open to having several small waves of implementation.
- Take advantage of the Safefood 360° Academy.
- Have quick reference guides created that are customized to your configuration.
- Take advantage of the capabilities of Safefood 360°.
 - Use it to automate as many administrative processes as possible.
 - Utilize Alerts and Notifications
 - Think “Outside the Box”. How can I use Safefood 360° to be even more effective?
- Use all available resources.



What are the plans for the
future?

Plans for the Future

- Fully implement Supplier Approval with Portal
- Implement an MOC process using the Business Process Module.
- Maintaining Alchemy training records into Safefood 360°.
- Utilize Discussions to send out weekly Food Safety and Safety discussions.
- Utilize Discussions to send out communication on record review results.
- Once system is fully implemented in Glasgow and providing savings and efficiency improvements, look into implementing at additional facilities.
- Continue evaluating system needs and analyzing how Safefood 360° can be used.