

# AVOCA BIOPROCESSING CORPORATION

ENZYME, FERMENTATION & EXTRACTION SERVICES

A DIVISION OF PHARMACHEM LABORATORIES, INC. 

## ADVANCING NATURAL INGREDIENTS PROCESSING

Avoca Bioprocessing Corporation stands at the forefront of natural ingredients processing technology for the food industries. A division of Pharmachem Laboratories, Inc., Avoca Bioprocessing Corp. expertly engineers and processes ingredients for a variety of food and nutraceutical applications including baked goods, confectionaries, snack foods, flavors, seasonings and salad dressings.

Our world-class facility has an AIB "Superior" rating, and serves as a state-of-the-art venue for the development of new natural food and nutritional products. We are also equipped to use flammable liquids under food grade GMPs, and for liquid blends, solvent extraction and distillation.

## MULTIPLE UNIT OPERATIONS TO CUSTOMIZE EVERY JOB

Avoca BioProcessing's 105,000 square foot manufacturing complex in Milwaukee, Wisconsin features multiple fermentation suites in which stainless steel vessels and equipment adhere to the highest standards in the industry. To ensure success, each and every production phase including nutrient flow, acidity of the medium, fermentation temperature, agitation and aeration is carefully monitored by electronic controls and data collection systems. Avoca Bioprocessing also has the means to utilize specialized mixing capabilities and enzymatically modified dairy product processing when needed.

Our skilled and professional staff also has extensive fermentation scale-up and custom production experience utilizing numerous types of micro-organisms. And our facilities are routinely inspected and approved by the AIB, and meet food industry GMP standards.

## CUSTOMER SPECIFIC PRODUCTS - EXPERTLY HANDLED

Avoca Bioprocessing places the finest technologies and the most adaptable equipment in the hands of our experienced operators, scientists and engineers to enhance our capabilities and expand production options. From raw materials handling and processing options to quality control, we have you covered every step of the way.

In addition, Avoca Bioprocessing is well positioned to fulfill the growing demand for customized probiotic cultures, biomass extracts, natural flavor molecules and other highly purified ingredients.

We also offer innovative dairy flavor solutions and a corresponding large manufacturing capacity to even formulate such customer-specific products. Plus, certified Kosher ingredients are available upon request.



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## SELECT EQUIPMENT

- Fermentors ranging from 15 to 28,000 liters
- Basket centrifuge
- Micro- and Ultra-filtration equipment
- Batch distillation stills  
(stainless steel and glass-lined with vacuum and packed columns)
- Resin columns
- Mixing tanks with axial-flow and scraped-surface agitators (40 to 28,000 liters)
- Drum heating chamber and warm room
- Tray dryer
- Refrigeration for perishable materials
- Continuous stacked disk centrifuge
- Plate-and-frame, Nutsche, bag and cartridge filters
- Solvent extraction equipment (e.g. extraction decanting centrifuge)
- Continuous wiped-film evaporators (Hastelloy C with vacuum)
- Grinders and mills
- High-shear mixing tanks
- One and two-stage homogenizers
- Spray chiller
- Utilities include steam, hot oil, air, nitrogen, oxygen, tempered and chilled water

## EXTENSIVE PROCESSING OPTIONS

- General and specialized blending of high-valued compounded products
- Natural flavor chemicals via fermentation
- Concentration by ultra-filtration and centrifugation
- Enzymatic processing (e.g. dairy flavors)
- Pure-culture fermentation
- Purification via solvent extraction, crystallization and distillation

## QUALITY CONTROL SYSTEMS

- Electronic process control and data collection systems
- Compliance with food industry GMP procedures
- HACCP procedures
- Chemical contamination control
- Analytical method chemistry (including gas and liquid chromatography)
- Kosher certifications as required
- Allergen control
- AIB "Superior" audit rating



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