

NEW BIOSPHERE AGRICULTURE

TECHNOLOGY and PRODUCT INFORMATION



"BE PREPARED FOR A REVOLUTION IN FOOD TECHNOLOGY"



Life Pack

THE PRODUCT:

New Biosphere Agriculture Pty Ltd – Life Pack – is able to deliver fresh food with shelf lives greater than a year without requiring refrigeration. We start with prime quality inputs and it remains prime quality for periods of one to up to three years.

The process involves:

- NO chemicals
- NO irradiation
- NO microwave
- NO preservatives
- NO additives

The retained nutrient level is greater than 95% at the end of the products recommended shelf life.

The process technique involves:

- Unique handling techniques employed when receiving raw inputs.
- Cooking process employing specifically developed recipes.
- Patent designed equipment required for handling raw product and processing.
- Vacuum sealing processes unique to the Company.

Unique receiving processing removes all microbes, germs and bacteria thus achieving a natural suspended state of animation which is maintained through to consumption.

Product distribution chain requires no refrigeration and the delivery process is significantly cheaper and more reliable to deliver than frozen products. Packaging in multiple film plastics is lighter, more compact and not subject to damage as you observe with canned packaged food.

Product can be assembled to suit any desired taste, employing world class recipes and achieving the objectives of consumer.

TECHNOLOGY & HISTORY:

Technology explanation:

Having observed the application of sterilization techniques in Pharmaceuticals, we applied this technology to food products. After paying many contractors and hiring university laboratories, it was apparent that the food technologists in the labs today were focused on technology that was developed in the 1800's. Knowing that they had made no attempt to redefine the parameters of the process, given the ability of equipment and labs today, we resolved to achieve this ourselves. As a result, the paragraph below defines what we have discovered and points to the "SECRET" that we have been able to define.

Food preservation info:

In-container food sterilisation (that is retort processes for product in cans, retort pouches etc) has been widely used in Australia for over 100 years. Therefore the standards required to ensure long term safety of the products is well defined. The effects of heat on product quality factors (eg colour, texture, nutrition, etc) have also been studied in "controlled" time-temperature environments.

However, under "real world" conditions, temperatures vary not only with time but spatially within the pack. These internal conditions depend on the external conditions applied during product processing.

Traditional retort processing involves the use of an essentially constant process temperature, at which the product is held at sufficient time to ensure product safety. Substantial product degradation generally occurs by the time required food safety standards are reached. Modern retorts such as the "steriflow" have the ability to control process temperature according to a set program.



This, in combination with thin-profile packages such as retort pouches, provides the opportunity to control the heating profile achieved in the product in a way which will optimise final processed product quality. Under this project, the relationship between retort conditions and product heating profiles are being modelled, and product temperature profiles are related to product quality parameters, for a range of food product.

This knowledge is useful as a tool to design thermal processes to achieve optimal quality outcomes for specific food products, enabling priority access to discerning and high value export markets.

MARKETS & COMPETITION:

Direct competition is the technology of frozen food and canned food.

The market for NBA Life Pack is world wide. The competition is existing food processing systems.

New Biosphere Agriculture (NBA) is delivering to the global food processing industry a new pathway for the delivery of food with greatly extended shelf life whilst retaining optimum levels of nutrition, greater than 95%.

NBA will be able to attract forward orders well in excess of its production capacity.

NBA recognises the enormous consumer education program that must be undertaken for Life Pack to be a global name and become synonymous with high quality nutritious food.

Market segments have been identified as:

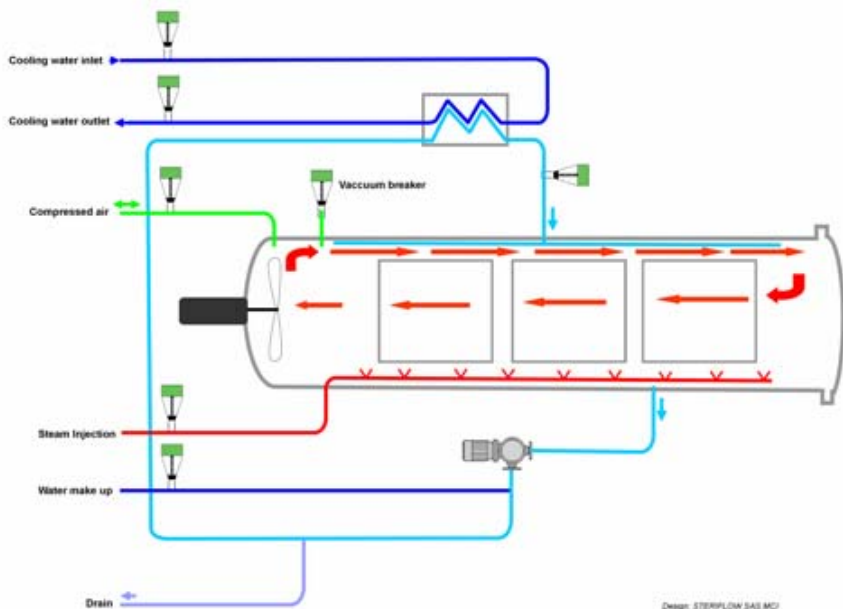
- *Existing catering suppliers.*
- *Existing distributors of Fresh and Frozen goods.*
- *Defence force contractors.*
- *International and domestic markets not previously addressed for logistical reasons.*
- *Existing manufacturers of processed foods.*

Steriflow RETORT

In a Static STERIFLOW, baskets with products stay static during the cycle. The STERIFLOW retort is one of the most famous retorts because of its high mechanical reliability and thermal homogeneity. The STERIFLOW retort is suitable for sterilization, pasteurization and cooking (at low temperature) of almost any type of products in all types of packaging. The retort with cascading water system was invented by Steriflow.



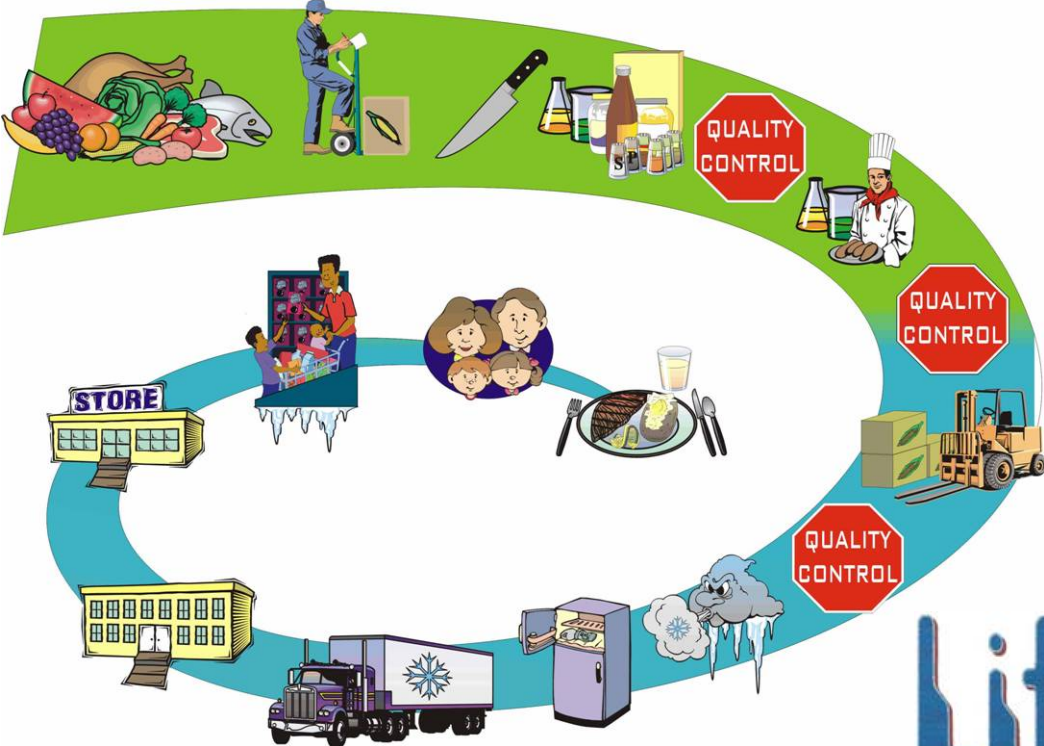
AIR STEAM PROCESS



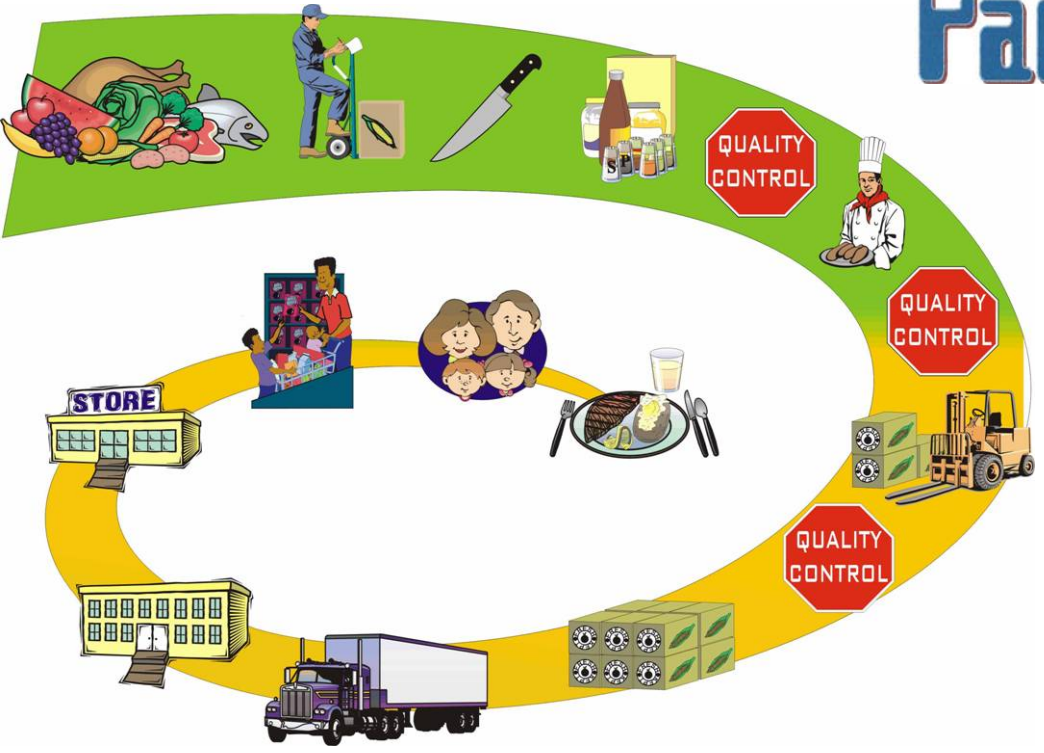
Design: STERIFLOW SAS MO



FROZEN & LIFE PACK CHAINS:
Life Pack does not require refrigeration.
LIFE PACK does not require refrigeration - 1 year shelf life without refrigeration



Life Pack





Unique features of NBA's process:

Life Pack long life shelf stable foodstuff, safe, nutritious, wholesome, high quality, which require no refrigeration to maintain consistency.

NBA has the ability to offer this technology to an almost endless number of food types, covering all major cooked food brackets i.e. **Meats, Sea foods, Dairy and Vegetable, focus being fruits and veg.**

With no refrigeration required, previously unserviceable markets become accessible. For example; fresh vegetables processed in Australia can be exported to Middle East, Asia or even Europe.

Competitive Technology Profile

	NBA Life Pack	Fresh	Frozen	Canned
Product Strategy				
Nutritional Value				
Corn	EXCELLENT	EXCELLENT	AVERAGE	POOR
Beef	EXCELLENT	EXCELLENT	MEDIUM-POOR	POOR
Product Life				
Corn	1Year	1 Week	2 Months	Years
Beef	1Year	3 Days	3 Months	Years
Product Durability	EXCELLENT	POOR	POOR	EXCELLENT
Distribution Range	WORLD WIDE	LOCAL	LIMITED	WORLD WIDE
Production Costs	LOW	MEDIUM	HIGH	MEDIUM





Hearty Beef Stew

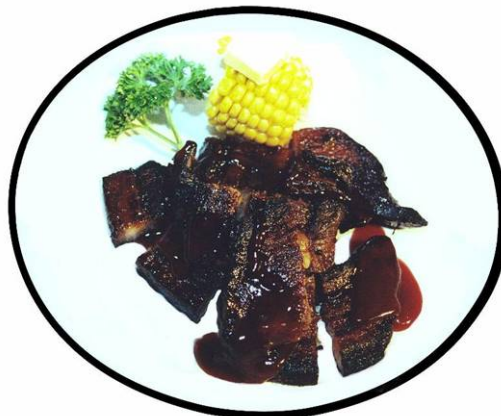
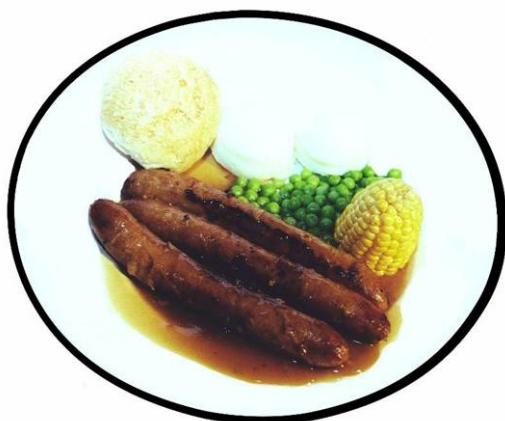
*No preparation necessary
Just heat & serve from the pack
Add as many extras as you fancy
No refrigeration necessary*

- Choose from our exciting range**
- Chilli Con Carne**
 - Meat & Bolognese Sauce**
 - BBQ Spare Ribs in Plum Sauce**
 - Sausages & Gravy**



**Xpress
CUISINE**

meals on the go



NBA's common aim with food we prepare:

- **looks good**
- **smells good**
- **tastes good**
- **is safe to eat**



As the new technology highlights inadequacies in existing production methods, NBA is able to highlight the following points in attracting potential partners:

- High nutritional values
- Exceptional taste experience
- No artificial additives
- No chemicals applied
- No radiation
- No microwave
- No preservatives
- Lower cost of distribution
- Energy savings
- Green House gas reductions
- Pollution reductions
- Job creation
- Market expansion



New Biosphere Agriculture's (NBA) Nutrition policy:

1. The key elements of the NBA nutrition policy include:
 - Satisfying consumer needs for nutritional health while meeting taste and other consumer requirements.
 - Supporting and utilising nutritional research and knowledge.
 - Continued product development based on current nutrition policies and consumer needs.
 - Compliance with laws and regulations.

2. A company such as New Biosphere Agriculture Pty Ltd (NBA) has a nutrition policy because the issue of nutrition is important in the community and with consumers. The company must keep abreast of these issues and to seek business opportunities, satisfy consumer needs and remain up to date with new trends, research and laws.

3. Ways in which the management of an organisation ensures that the policy is applied is through the inclusion of all levels of the company and management in the development of the policy. Those that are responsible for putting the policy into action should agree with it and own it. Management should also be structured to have processes of accountability to ensure that the policy is applied.

4. The six focal issues in their nutrition policy include:
 - consumers
 - research and knowledge
 - product development
 - food production
 - regulation and nutritional policy
 - employees.

5. The Mission Statement for New Biosphere Agriculture Pty Ltd (Life Pack) is to promote the enjoyment of food and interest in it, relating to a healthy lifestyle. NBA will support and encourage research aimed at:
 - Giving a better understanding of the nutritional role of food products in the diet.
 - Gaining a better understanding of those nutritional issues, which are seen as important by consumers.

6. The New Biosphere Agriculture Pty Ltd - Good Food Guaranteed - Life Pack is a sign to the customers that NBA is committed to producing food of the highest quality: nutritious, good tasting and safe. The consumer Life Pack panel is a consumer panel of information consistent on all product packaging. The panel is divided into three sections;

Nutrition Information,
Ingredients, and
Quality Guarantee

 with contact details for their Consumer Advisory Centre, should consumers require additional information.

7. The perceived role of NBA in food regulation review is to work positively with government authorities, scientific bodies, and other opinion leaders towards the formulation of sound standards, regulations, laws and policies relating to nutrition and the nutritional status of consumers.

NEW BIOSPHERE AGRICULTURE



Fish is the cuisine of choice around the world bar none!

It is possible that we are able to deliver your desired fish in the sauces you prefer without exception.

NBA Life Pack is able to preserve and deliver to you:

**Lobster
Crayfish
Prawns / shrimp
Oysters
Mussels
Tuna
Salmon
Perch
Whiting - any seafood**



You just name it!

Your special sauces can be added to the recipes!



NEW BIOSPHERE AGRICULTURE

Meats and poultry is where NBA Life Pack excels.

Any cut can be considered and prepared to reflect your tastes and desires. Supporting garnishes to your specifications.

NBA has perfected the art of delivering meals that you simply "heat and eat".

Enjoy! Choose any meat or poultry

Process:

Upon receiving prime quality inputs all food stuff is uniquely processed to remove all microbes, germs and bacteria to achieve a natural state of animation that is maintained through to consumption of the prime quality Life Pack processed food.

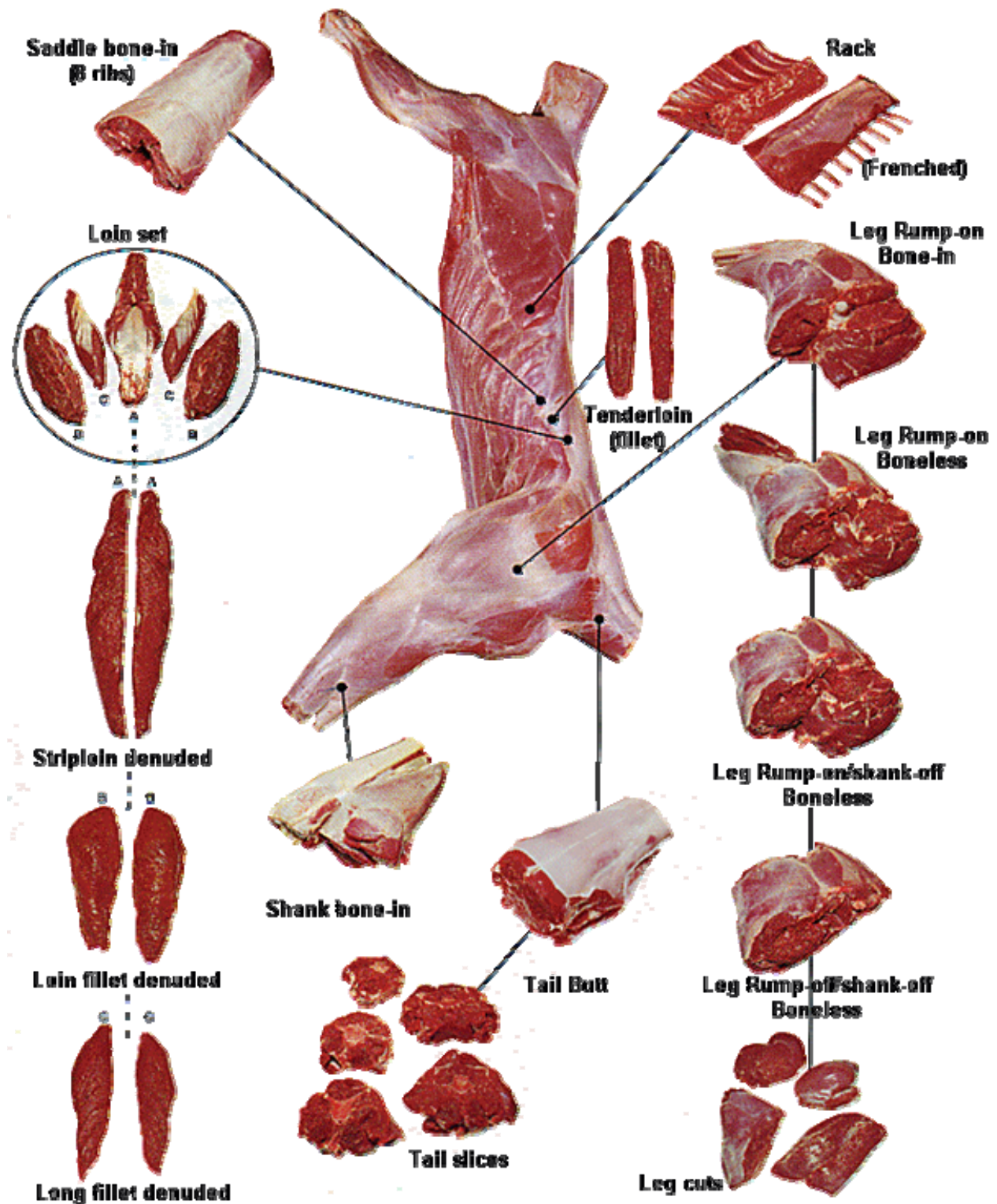
Unique cooking techniques employing world class recipes do not involve the addition of chemicals or preservatives or employment of microwaves.

Packaging in complex multi-layered film plastics completes the delivery process that retains optimum nutrient levels for one to three years without requiring refrigeration.

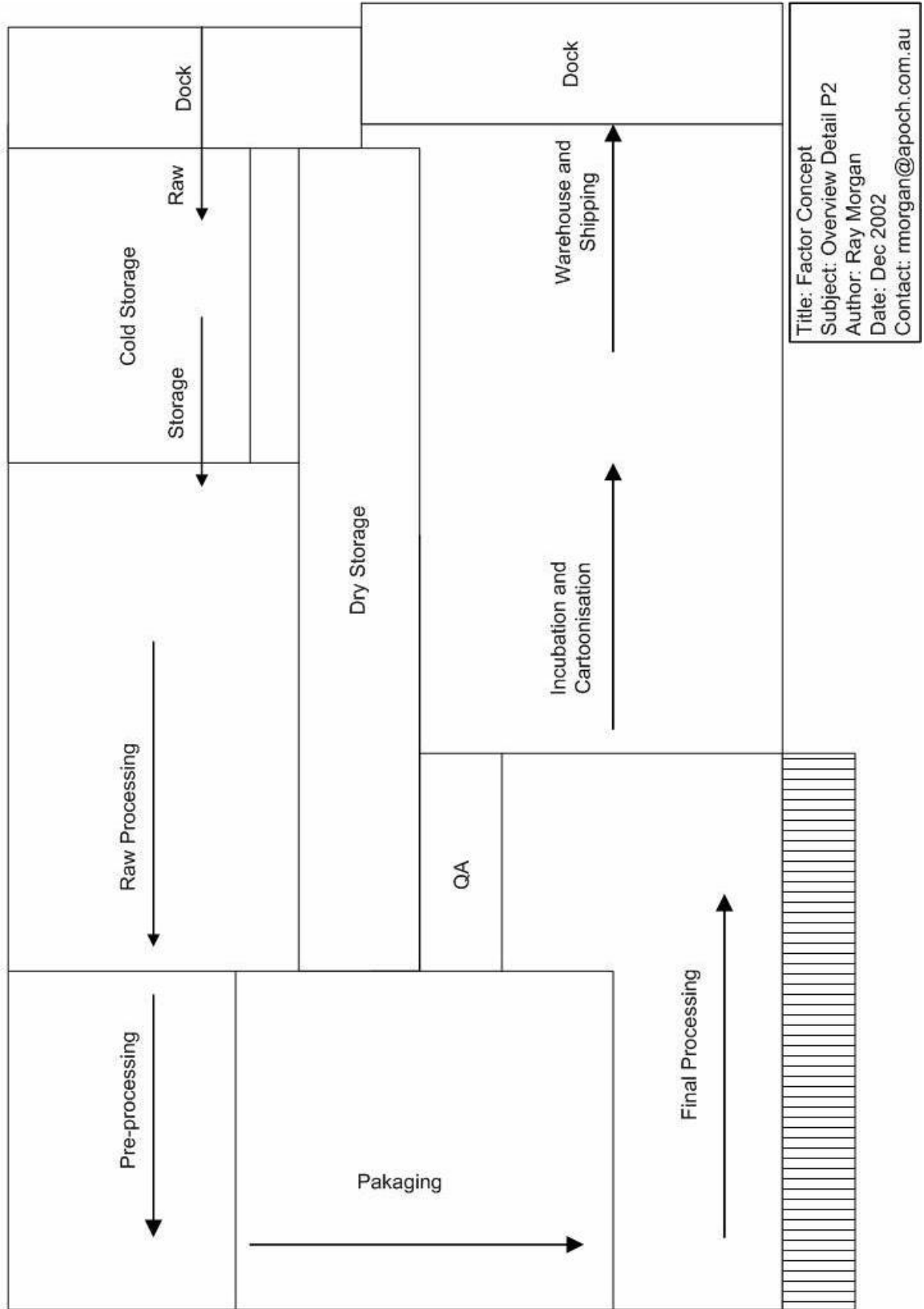


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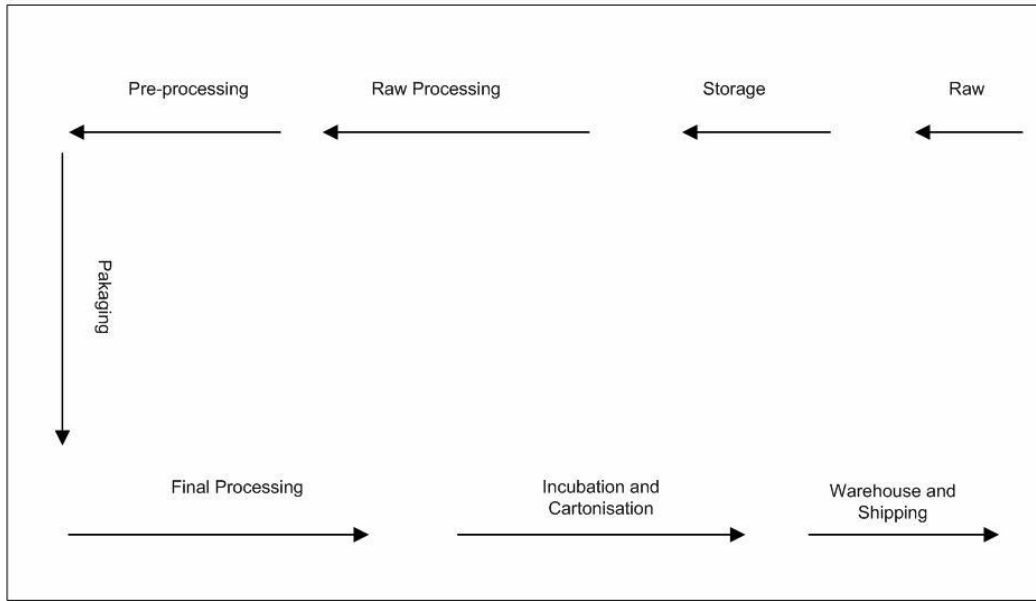
NBA Life Pack technology can deliver to you anywhere in the world, food prepared to your recipes, all meats from cattle, lamb, goats, pigs, chicken, and any game meat such as kangaroo from any cut nominated. Our "cooking bee" will guarantee you satisfaction.



Proposed New Manufacturing Facility



Proposed New Manufacturing Facility



Title: Factor Concept
 Subject: Overview
 Author: Ray Morgan
 Date: Dec 2002
 Contact: rmorgan@apoch.com.au

Laboratory and Office Proposal



Automated Retort Basket Loading System offers high throughput.

June 28, 2011 - Capable of providing in excess of 10 sweeps/min and basket changeover in less than 20 sec, 400X Hyper-Loader supports 3,000/min throughput of 212 X 107 sized cans. Servo carriage control lend to positioning precision and speed, while container pattern pre-stage area allows for continuous sweeping. Additional features include slip sheet squaring area, VFD control on all conveyor motors, hydraulic product elevator, and proportional hydraulic valve control.

Allpax Products, Inc.
13510 Seymour Meyers Blvd.
Covington , LA 70433 USA
Phone: 985-893-9277
FAX: 985-893-9477
<http://www.allpax.com>
View this company's profile



Pouch Loaders

<http://www.allpax.com/products/pouch-loaders/>

Product Overview

When a food processor moves from processing cans and jars to processing retortable flexible packages, material handling becomes a whole new ballgame. Pouches have a unique "personality." They don't behave like cans or jars. They must be put in lanes and controlled from the time that they are filled and sealed. Pouches cannot handle backpressure.

The Allpax Pouch Loader controls the pouches from the filler, then stages the pouches into the most efficient row / column pattern for consolidation. The pouches are then accurately picked and placed into the receiving tray by a servo driven pick and place head. The trays are then stacked and conveyed to the retort for processing.



Pouch Loader Features

- Automatically controls, consolidates and loads pouches
- Severe-Duty Design and Components
- Built with standard Parts and Components
- Stand-alone operation, or ABRS integrated
- Allpax PC-based controls or A-B ControlLogix Controls
- Color Touch-Screen Operator Interface
- 304 Stainless Steel construction

For more information on Allpax Pouch Loaders, [See the Pouch Loaders Tech Sheet.](#)

Life Pack

NEW BIOSPHERE AGRICULTURE

NEW BIOSPHERE AGRICULTURE'S QUALITY CONTROL:

NBA's in house research laboratory guarantees that we will deliver the highest possible quality and reliability by undertaking.

- Microbiological testing
- Chemical Testing
- Surface hygiene monitoring
- Education & Training of staff
- Technical & Consulting
- Food Safety Plan development based on HACCP
- Temperature control equipment



Microbiological Testing

We have a full range of microbiological testing services for a wide variety of industries including:

- pharmaceuticals
- food processing
- water
- smallgoods
- dairy
- salads - fruit and vegetables – vegetables and fruits being our focus
- all seafoods
- all meats

All microbiological tests are performed in NBA's laboratory or in partnering laboratories in major Universities within the region. The laboratory is to be NATA (National Association of Testing Authorities) accredited as well as accredited with HACCP.

LICENSING PROGRAM - A GLOBAL AGENDA for NBA:

NBA will consider licensing food processing corporations any where in the world to support the opportunity to more efficiently deliver farm produce from anywhere to anywhere in the highest possible quality with the highest possible nutrient retention capable.

NBA actively is seeking partners to achieve the global applications that LIFE PACK enables.



NEW BIOSPHERE AGRICULTURE

PROFIT BENEFITS for INDUSTRY USERS of TECHNOLOGY

Application: "MEAT & POULTRY" process:

- Nutrition retention greater than 95%.
- Unrefrigerated shelf life one year up to two years with appropriate storage.
- Processing requires 40% less power than for a cannery.
- Significant costs savings in handling and shipping due to less weight and bulk versus cans.
- No refrigeration required ensures quality of product over the vagaries of refrigerated shipping.
- Processing during low price periods of meat can be capitalised upon.
- Produces a higher quality product, world class chef's recipes.
- Enables product branding and differentiation with higher profit margins.

Application: "SEAFOODS" process:

- Nutrition retention greater than 95%.
- All seafoods can be processed with one to two years shelf life with appropriate storage.
- Cooking time is quicker than for alternative canned or frozen products.
- Power consumption lower.
- Processing space required reduced whilst increasing output.
- Quality of produce enhanced with the input of world class chef's recipes.
- Enables product branding and differentiation with higher profit margins.

Application: "DAIRY" process:

- Creamed sources have shelf life of one year.
- Milk is under investigation and further research - possible shelf life of one year.

Application: "FRUIT" process:

- Nutrition retention greater than 95%.
- Unrefrigerated shelf life one year up to two years with appropriate storage.
- Shipping costs significantly lower than for canned or frozen products.
- Enables product branding and differentiation with higher profit margins.

Application: "VEGETABLES" process:

- Nutrition retention greater than 95%.
- Unrefrigerated shelf life one year up to two years with appropriate storage.
- Shipping costs significantly lower than for canned or frozen products.
- Enables product branding and differentiation with higher profit margins.

