ROSEMARY GARDENS

Sustainable Food Systems – integration of a hydroponic, vertical farm into a Food to Go factory.

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Presentation Outline

• Brief introduction to Raynor Foods
• Rosemary Gardens
• Project Aims
• Project Stages
• System integration
• Benefits – food safety, quality, provenance and sustainability
• Raynor Foods – established 30 years ago
• Both factories located in Chelmsford, Essex (Birthplace of the Radio)
• 2nd Generation Family Business
• National and International Award Winning Innovations
• Manufactures extensive range of Food to Go products.
• International consultancy wing, consulted in Austria, Italy, Spain, Saudi Arabia, Israel and others.
Raynor Foods
Our Vision

• To be a world class manufacturing facility – a factory of the future – that utilizes digital technology, advanced automation, robotics and artificial intelligence.

• To ensure our practises are sustainable for many generations to come.

• To be at the leading edge of the 4th industrial revolution for Food Manufacturing.
Disrupt or be Disrupted
Rosemary Gardens

- Hydroponic, vertical, self contained farm.
- Ebb and flow system
- 3rd Generation of LED growlight technology
- Dual water treatment system – UV and filtration
- Grows micro leaf, salad and herbs
- Internally sourcing for product range
Project Aims

Integrate supply chain
- Additional innovation capabilities
- Enhance quality
- Reduce environmental impact
- Enhance food safety
Exploration Phase

- Research – building the knowledge base, identifying what we don’t know but should and building skills.
- Seed trials
- Growing media trials
- Irrigation and lighting cycles
- Fertilizer types
- Chitting process
- Temperature and humidity challenge
- Yield optimization – customization of growing units
- Harvesting methodology
- Establishing growing cycles
Establishing and integrating factory systems

- Safe production systems (food safety and its hazards)
- Environmental controls
- Sampling – environment and plants
- Hygiene – a key requirement
- Supplier approval – growing media, seeds
- Internal sourcing – sowing/harvesting rota, forecasting demands and contingencies
- Raw material specifications
- Traceability – from seed to plant to product
- Quality parameters
- Training
- Verification & Validation
Production
Key Benefits

✓ Food safety; physical, chemical & microbiological
✓ Quality; freshness, size, shape, colour, rigidity and flavor
✓ Sustainability; zero food miles, raw material packaging waste, wastage levels
✓ Supply chain integration; cost neutral worst case, cost benefit in majority of cases
✓ Innovation capabilities; sprouting seeds, new flavours, new products (living) and cross fertilization opportunities.
THANK YOU FOR YOUR TIME

Q&A