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Introduction to Global Plant Genetics

- UK based business operating in asparagus, berries and grapes
- Representing 12 world-class breeders from 7 countries
- Global customer base across all major asparagus and berry producing regions
- Focus on the development and distribution of improved varieties across the range of crops
Asparagus at Global Plant Genetics

• Represent 5 leading asparagus breeders
• Focus on seed and plant supply
• Customers are plant nurseries and large growers
• Specialist focus on the development of asparagus in new growing locations
• Key expertise in trials, variety selection and establishment of new plantations
• Industry leading technical support
Climatic Regions for Asparagus

Cold / Temperate Asparagus Production
• Naturally short season
• Innovative techniques to extend harvest
• Sales within country or short distance exports

Warm / Hot Asparagus Production
• Longer harvest seasons
• Potential production year round
• Mainly produced for export markets
World Asparagus Trends

- Increasing demand globally
- Consumer driven and growers / marketers need to respond
- Approx. 200,000 hectares of asparagus worldwide *
- 25-35% in each of Europe, The Americas and Asia
- 65% green asparagus
- Significant increase in last 10 years from <50%
- Trend expected to continue

*data collected from a range of sources, mostly through personal communication
Asparagus Opportunities in Portugal

• Potential for early season European asparagus
• Season of supply from February to May
• Import substitution of asparagus from Mexico and Peru
• Reduced transport costs
• Faster to market than product from the Americas for improved freshness
• Develop a local market for the product
Production Environments

- Outdoor production
- Mini tunnels
- High tunnels
- Glasshouse
- Forced production
Outdoor Production

• Standard technique
• Natural harvest season
• Plant material – crowns, modules and direct seeding
• Plant density 25-40,000 plants per hectare
• Hand and machine assisted harvesting
• Irrigation used as required by conditions
Mini Tunnels

- Increasingly common technique
- Improved earliness of 2-4 weeks
- Plant material – crowns, modules and direct seeding
- Plant density 25-40,000 plants per hectare
- Hand and machine assisted harvesting
- Irrigation can be necessary during harvest in dry seasons
- Potential yield increases
- Additional harvest costs per kilo
High Tunnels

• Specialist production system
• Potentially 4 weeks earlier
• Possible to combine with mini-tunnels for additional earliness
• Plant material – crowns, modules and direct seeding
• Plant density 40-80,000 plants per hectare
• Irrigation fully required
• Very high yield potential
Forced Production

- Very specialist operation
- Common in Japan
- Production environment – glasshouse or tunnels
- Harvest season can be manipulated as required
- Plant material – 2 year old crowns
- Plant density 100-200,000 crowns per hectare
- Very high yield potential
- Irrigation fully required
## Plant Material

3 main types for establishment:

<table>
<thead>
<tr>
<th>Plant Type</th>
<th>Advantages</th>
<th>Disadvantages</th>
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| 1 year old crowns | Earlier first harvest  
Low risk  
Suitable for all soil types | More expensive  
Roots disturbed at the point of harvest |
| Modules / plugs | Lower cost than crowns  
Minimal root disturbance | More risks with weed control  
Longer time to first harvest |
| Seeds         | Least costly plant type  
Fast to drill seeds at varying densities  
No root disturbance | Highest risk of establishment failure  
Longest time to first harvest |
Varieties

• There is a wide range of asparagus hybrids available across the world
• Breeding programs have specific focus, such as climate and colour of asparagus
• It is vital to select the right variety for your production location and market type
• Along with soil type and management, variety choice has the largest potential impact on the future profitability of your asparagus plantation
Guelph Millennium

• The standard variety in a range of territories
• Industry leading field longevity. Fields can remain commercially viable for up to 15-20 years
• High yields and very tight heads
• Recommended plant population is higher than others grown as standard in Europe
Guelph Eclipse

• Integral part of the new generation of green asparagus hybrids currently available
• Latest commercial variety from the breeding program
• Offers improved yield and tip quality over Guelph Millennium
• Increased spear diameter reduces harvesting costs
• Fast becoming the first choice variety in Michigan
• Limited volumes of seed available for spring 2019
Guelph Equinox

• The next in line of the new generation of green asparagus hybrids
• Commercial trials are now providing significant data to back up initial test plots
• Exceptional combination of high spear numbers and head quality
• The best spear uniformity we have ever seen
• First seed available in commercial volumes in 2020
Mondeo

- Bred in the north of Germany
- Early season production
- Precocious hybrid that get to full production more quickly than other varieties
- High production
- Good spear and tip quality
- Limited crown volumes for spring 2019
Early California and Patron

• Bred in Southern California, USA
• Suitable for production in hot and dry climates
• Require no winter chilling to start growth in the spring
• Very early season production. Early California first, followed by Patron
• High yields of excellent quality asparagus spears
• Opportunities in the south of Portugal
• Seeds available spring 2019 and crowns in 2020
Pacific Green

- New variety, bred by Aspara Pacific in New Zealand
- At its best in temperate / warm Continental climates
- Early / mid season production
- Very high yields
- Exceptional spear quality
- Limited crown volumes available spring 2019
Vittorio

- New asparagus hybrid, bred in the north of Italy
- Uniquely adaptable to both green and white asparagus spear production
- Large spear diameter
- Very closed tips
- Excellent yields
- Tolerant of heavier soils
- Limited seed volumes available in spring 2019 and crowns in 2020
Greenic

- Bred in the temperate climate of New Jersey, USA
- Exceptionally high production
- Very closed spear heads in warm growing conditions
- Uniform spear diameter and straightness
- Early season production
- Prefers light, well-drained soils
- Seeds available spring 2019 and crowns in 2020
Asparagus production in this region

• Great opportunity to develop asparagus production in this part of Portugal
• Key essentials:
  • Know your market and strategy before planting
  • Choose the right soil
  • Plant the correct variety / varieties
  • Manage the plantation with care, especially in the early years
The Future

• Overall further expansion of green asparagus as a percentage of total world production. Market segmentation with more convenient packs offered to consumers
• Development of mechanical harvesting, especially in more expensive labour countries to reduce costs
• Advancement in new varieties to extend the harvest season and to combine with mechanical harvesting
Stay up to Date

• Last year, we launched a new website and this is where you can keep in touch with the latest developments in asparagus varieties

www.asparagusseeds.com
Thank you!

Obrigado!