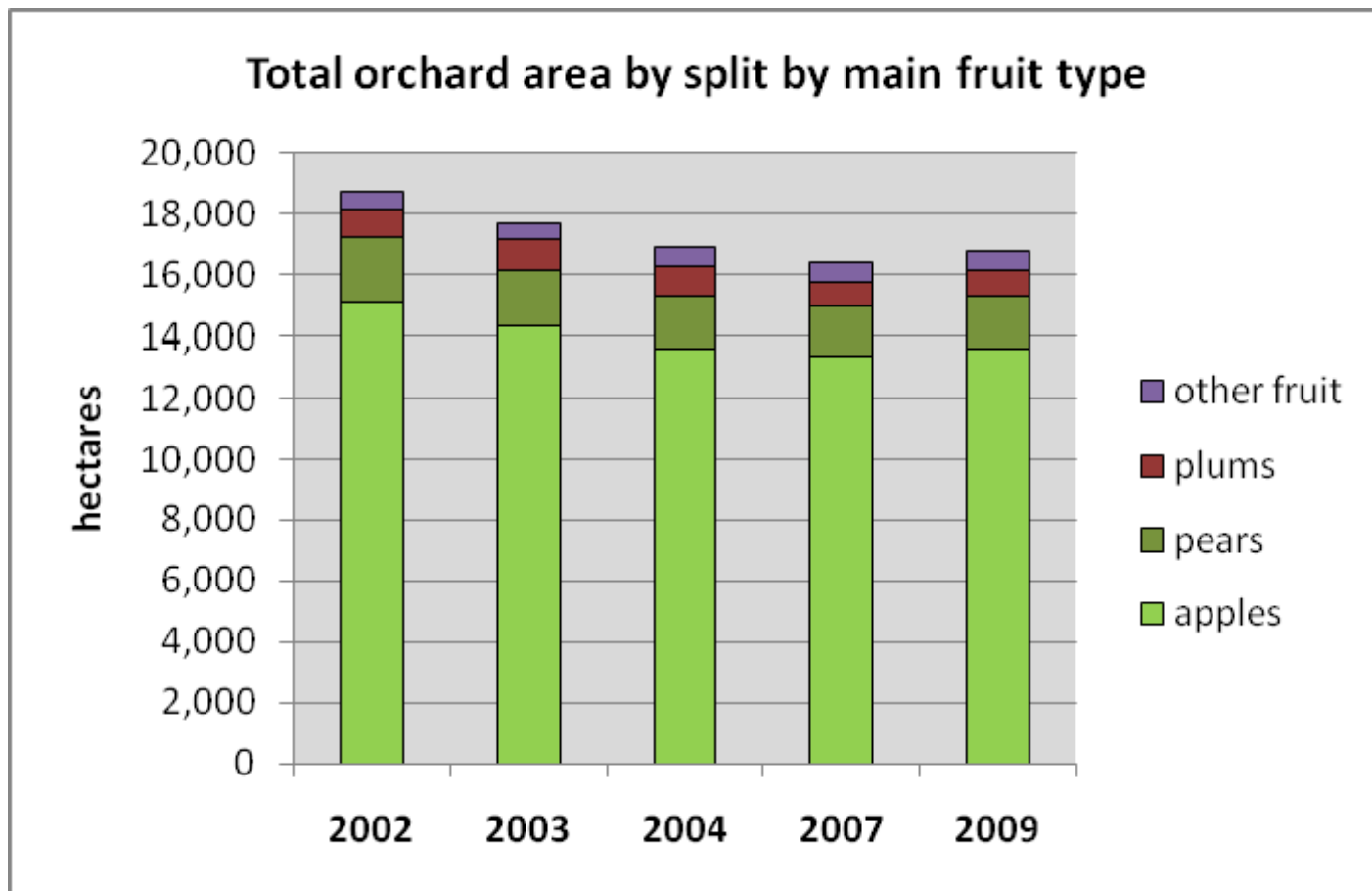




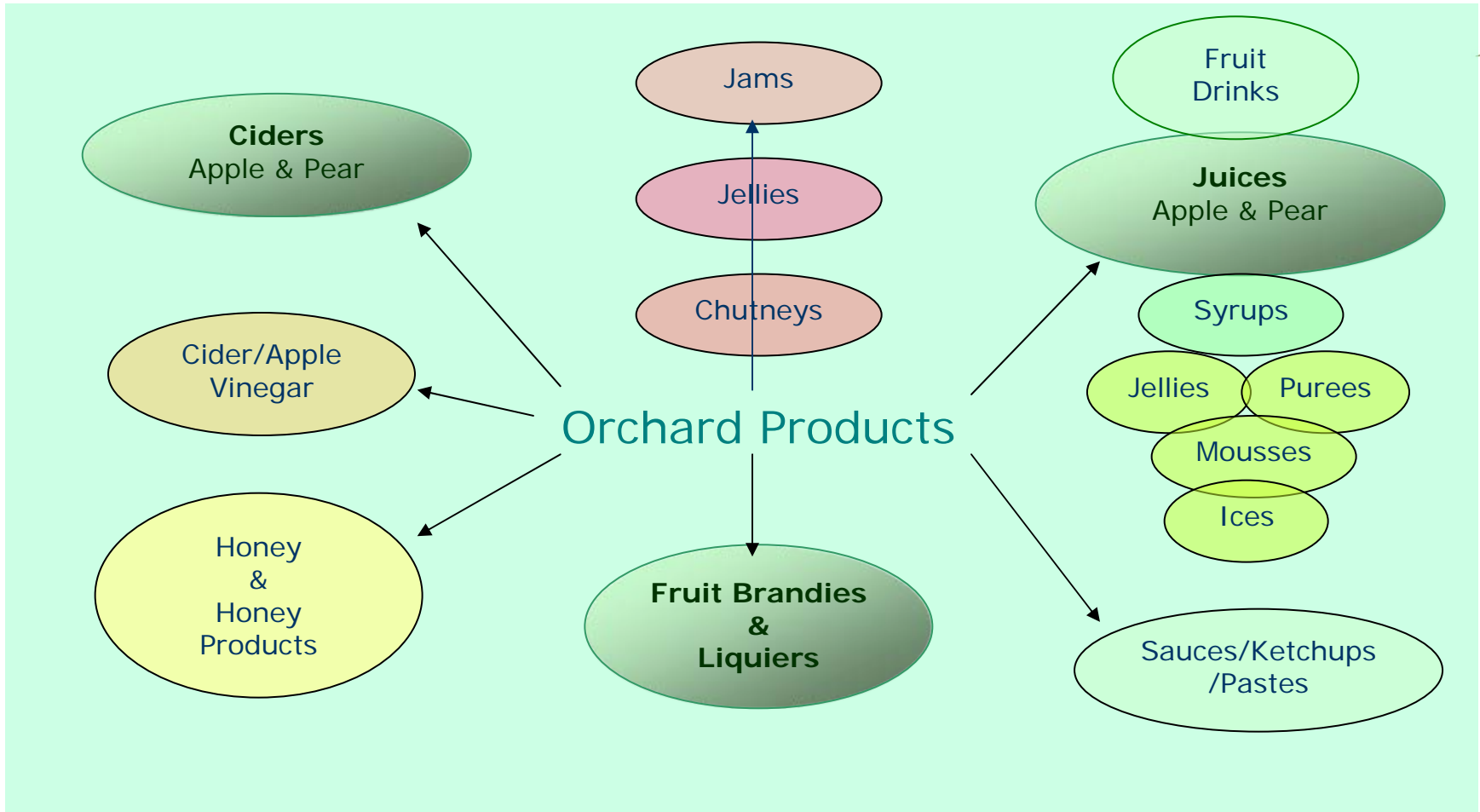
Cash in the Orchard

Orchard Produce

Liz & Andrew Woodward



Source: Defra Survey of Orchard Fruit October 2009 – England and Wales



Orchard products

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- Product quality – make sure your product has authenticity
- Local
- Wildlife friendly
- Natural ingredients
- Traditional methods
- Good appearance
- Good taste
- Freshness



'Due Diligence'



- Environmental Health

- Food Hygiene Laws
 - Staff training
- Procedures
 - HACCP (Hazardous Analysis Critical Control Point)
 - Lifting
 - Ladders
- Product Testing
 - Patulin
- Buildings and equipment
 - contamination
 - Storage
 - Scale of production

- Legislation

- Honey Regulations 2003;
- General FoodHygiene Regulations 1995
- Food Labelling Regulations 1996
- Weights and Measures Act 1985;
- The Food safety Act 1990
- Cider Taxes

- Trading Standards

- Labelling Weights and Measures

- Risk Assessments

- Picking
- Bottling
- Sterilising
- Pasteurisation

Labelling



Requirements for labels depend on the product but typically include:

- Best before, Food name, and quantities must be presented in the same field of vision;
- Ingredients listed in descending order by weight, [including % quantity for ingredients that appear in the product name]
- Known allergenic ingredients must be declared
- Typeface for weight details must be at least 4 mm high
- Unique batch numbers may be legally required for some products. This is important for apple juice, especially if batches are to be patulin tested
- Name and address of manufacturer
- Storage instructions must be shown
- Any organic ingredients must be described correctly with reference to certification body such as the Soil Association or Organic Farmers and Growers.

Scale of Production



“the volume of juice or cider to be made in a season, divided by the number of days that you are prepared to work and this then determines the daily production capacity required”

less expensive, slower, more labour-intensive machines
Vs
more expensive automated machines with a lower labour
requirement

Rootstocks and Yields



M106 Rootstock - Semi-vigorous	
Mature height	10-13ft (3-4m)
Spread	13ft (4m)
Planting distance	12ft (3.6m) apart, 15ft (4.5m) between rows
Mature yield	50-100lb (23-56kg)
Suitable forms	Half standard, Bush, Cordon, Espalier, Containers
MM111 Rootstock - Vigorous	
Mature height	13-15ft (4-4.5m)
Spread	15ft (4.5m)
Planting distance	15ft (4.5m) apart, 20ft (6m) between rows
Mature yield	100-400lb (45-180kg)
Suitable forms	Standard, Half Standard, Large Espalier
M25 Rootstock - Vigorous	
Mature height	Over15ft (4.5m)
Spread	20ft (6m) 20ft (6m) apart,
Planting distance	25ft (7.5m) between rows
Mature yield	200-400lb (90-180kg)
Suitable forms	Standard

Juice Volumes



- Apples must be crushed to a fine pulp before pressing. The yield of juice is determined as much by the efficiency of crushing as by the power of the press.
- Press capacity of presses vary and choice of press will also determine juice yield per pressing
 - 6 litre spindle 12 lbs (5.5 kg) 4.5 pints (2.5 litres)
 - 90 litre hydropress 198lbs (90kg) 87½-98 pints (50-56 litres)

Source: Vigo.

Equipment



- Mill
- Pomace trough
- Press
- Juice collection tank
- Pump
- Storage tank
- Fittings
- Piping
- Gravity feed bottle filler
- Pumps
- In bottle Pasteuriser
- Temperature recording
- Protective clothing
- Ladder
- Apple pickers and sacks
- Bottle baskets
- Data logger
- Screw cap tightener
- Labels and labeller
- Label design
- Storage boxes
- Bottles
- Cider barrels
- Hydrometer

Outline Business Plan

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1. Introduction:
2. Executive Summary:
3. Background
4. Product/Service Offered:
5. Market
 - What are the general market conditions
 - Customers
 - Competitors
 - Sales Forecast
6. Investment Requirements
7. Operations
8. Financial Analysis
9. Risks
10. Appendices.

Assumptions



- Route to Market is not yet defined (direct to customers, via third parties or through NT Enterprises). We have focussed therefore on cost, not sell out price
- Apples are free issue from the orchard.
- Land or buildings are available free of charge.
- A cost for labour has been included. If this is available free of charge or through volunteers then costs could be lower
- The bottling capacity is assumed to be the same regardless of bottle size.
- Capital cost are fully recorded to show depreciation in the P&L
- Outsourcing P&L is derived on the basis that apples are free issued to a third
- Transport costs for out-sourced production have been estimated.
- No transport costs for bottled product has been included
- 100% of yield is converted to juice
- Whatever is produced is sold

P&L Input data for Apple Juice production at Parke Estate



Ideal Yield

Apple yield per tree	37.5 Kg
Trees per acre	245
Apple yield per acre	5,500 Kg
Juice per tonne	650 Litres

Actual Yield

Trees per acre	65
Acres available	2 Acres
Total Trees	130
Apple yield	4,875 Kg
Total juice available	3,169 Litres
No of 0.75 litre bottles	4,225 Bottles
Picking hours	160

Confirm

Consumables costs

Bottles	£ 0.32
Lids	£ 0.05
Labels	£ 0.05
per bottle	£ 0.42

Apples £ 731.25 (£0.15 per Kilo at Farm gate)

Labour rates

Operative	£ 6.50
Picking	£ 5.92
staff	£ 10.50

Capacity

Bottle per day	300 Based on choice of equipment
Continuous bottling period	18 Days

Capital costs

Trees at £4.50ea	£ 720.00
Stakes @ £0.6	£ 78.00
Rabbit guards @ £0.5	£ 65.00
Maintenance to point of yield	£ 3,000.00
Mill	£ 745.00 Vigo Electric Centrifugal
Press	£ 950.00 Vigo 90l Hydro Press
Pastueriser	£ 3,500.00 Vigo In bottle pasteuriser
Bottling plant	£ 145.00 Vigo 2 bottle manual station
Building refurbishment	£ 2,000.00 Estimate
Label Design	£ 500.00 Estimate
Total	£ 11,703.00

0.75l Ave yield

Summary of unit costs



	Max yield	Min yield	Ave yield	Outsource comparison	Indicative retail price
0.75litre Gross cost	£0.97	£0.97	£0.97	£1.94	
0.75litre Net cost	£1.47	£1.96	£1.72	£2.31	£2.50
0.25litre Gross cost	£0.78	£0.78	£0.78	£0.99	
0.25litre Net cost	£0.97	£1.15	1.03	£1.11	£1.20

Outline of the model used



New Product Project Prioritisation

Project No.

Created by Date

IRR **Nett cashflow** Resource

Profitability index **Probability of success** **Payback**

1. Financial assessment - Please enter values into blank cells
Capital and revenue costs should include all project costs, NPD, marketing, production etc until product is launched.

Financial	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Sales volume		2,113	4,225	4,225	4,225	4,225	19,013
- Returns	0	42	85	85	85	85	380
Nett Sales (units)	0	2,070	4,141	4,141	4,141	4,141	18,632
Gross margin £	0	1,610	3,221	3,221	3,221	3,221	14,493
- Capital	7,840						7,840
- Revenue	1,000						1,000
- Staff costs	1,000						1,000
- Working capital		887	887			-1,775	0
Cashflow	-£9,840	£723	£2,333	£3,221	£3,221	£4,995	4,653

Returns % Project cost

2. Risk assessment - to be carried out by panel, with the average score used in the table.

Confidence that	Probability	Weight	Score
The sales forecast will be met	4	1.42	5.7
The product will be launched on time	4	0.50	2.0
The product will meet the target cost	4	0.90	3.6
The project costs will be on target	4	0.25	1.0
Total risk rating			41

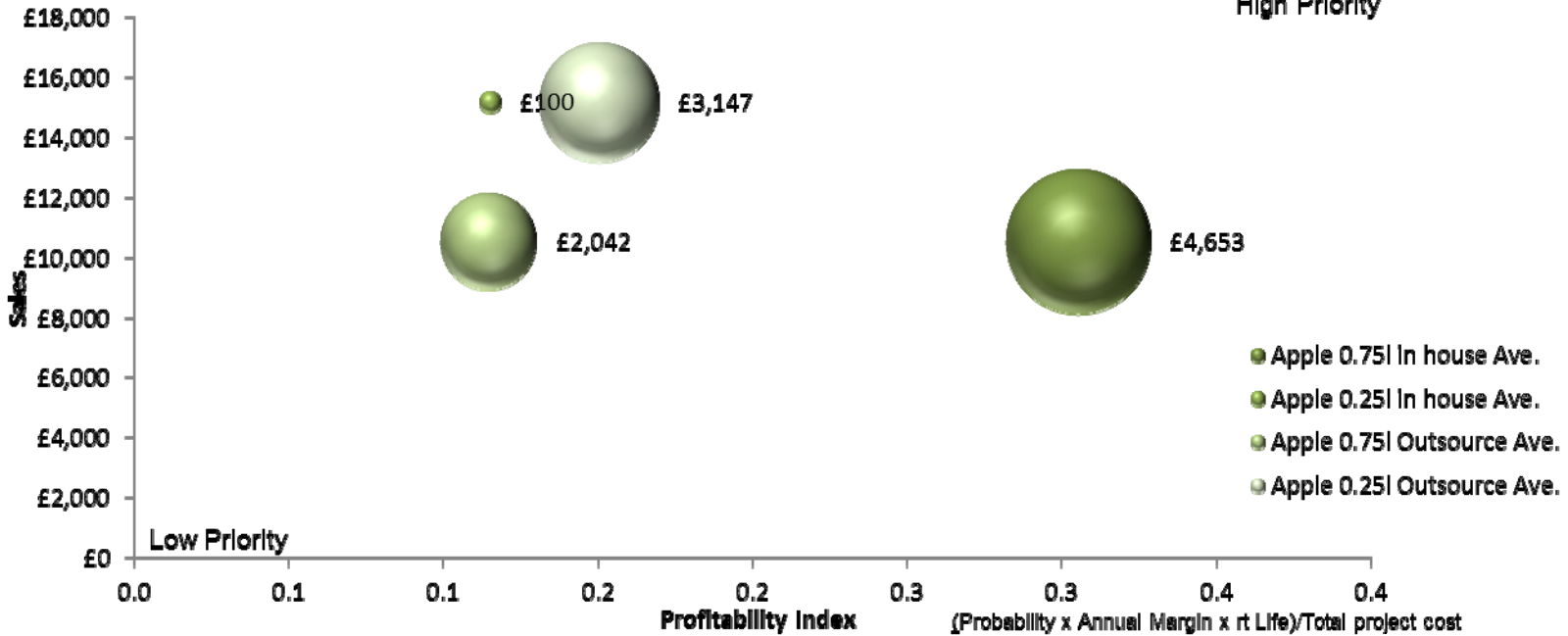
3. Product Costs and margins

Product	Cost	Sell out	Net Margin	Annual Volume	Annual Margin	Annual Sales £
	£ 1.72	£ 2.50	£ 0.78	4,225	3,286	10,563
			0		-	-
			0		-	-
			0		-	-
Total				4,225	3,286	£10,563
Average unit margin					£0.78	

Option Attractiveness Summary



Project Prioritisation (Size of circle = Cash flow)



Project Name	Profitability Index	Annual Sales	Nett Cash	Probability	Resource
Apple 0.75l in house Ave.	0.31	£10,563	£4,653	41%	12
Apple 0.25l in house Ave.	0.12	£15,210	£100	23%	12
Apple 0.75l Outsource Ave.	0.11	£10,563	£2,042	10%	6
Apple 0.25l Outsource Ave.	0.15	£15,210	£3,147	10%	6

Conclusions



- 0.25 litre in house option generates relatively good sales, but low profit and poor cash flow
 - relatively high level of investment
 - longer required to complete the bottling operation
- Outsourcing options are low on profitability
 - Unlikely to meet target costs and
 - Generate a lower net margin
- But - The outsourced options require much lower investment and pay back time is much shorter
- All options would show improved results if the sales volume were higher. In house options become relatively more attractive.
- The 0.75l in house option generally gives the best cashflow and net profit with good sales value.

Orchard product success factors

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- Raw Materials – make sure you have reliability of supply, good quality and assurance of that quality
- Contact and communication with customers and consumers – knowing the market and 2 way relationships
- Drive and enthusiasm – multitasking and support of orchard owners and staff/volunteers
- Local demand and community support – don't overprice
- Financial management and business planning – essential for sustained growth
- Make sure you have sufficient capacity – to enable other business activities to be undertaken
- Institutional support – seek out sources of funding and networking, information, training etc.
- Ensure you have effective marketing channels and USE them e.g. Fine Farm Produce Awards, Regional Food Awards like Taste of the West or National like Made in Britain.
- Use events and activities to help market your produce – open days; seasonal events; education





Activity – Branding & Labelling



Activity – Branding & Labelling



You have 15 minutes to discuss:

- What market is the product is being aimed at?
- What do you think of the 'brand'?
- What image is it trying to convey?
- What kinds of words has the producer used?
- Does this product have a 'Unique selling point'?
- Have they included all the required labelling information?
- Do you like the look of it?
- Would you like to buy it? i.e. is the labelling successful?

Each group to then feedback on your findings.

