

ORFC Jan 2016

Agroforestry: what it is and why it's needed

Agroforestry in practise - what's possible in the UK?

Stephen Briggs



Agroforestry

- Agroforestry in practise
- examples of different agroforestry in various forms
- what's possible in the UK
- experience from my own farm

Agriculture or forestry ?



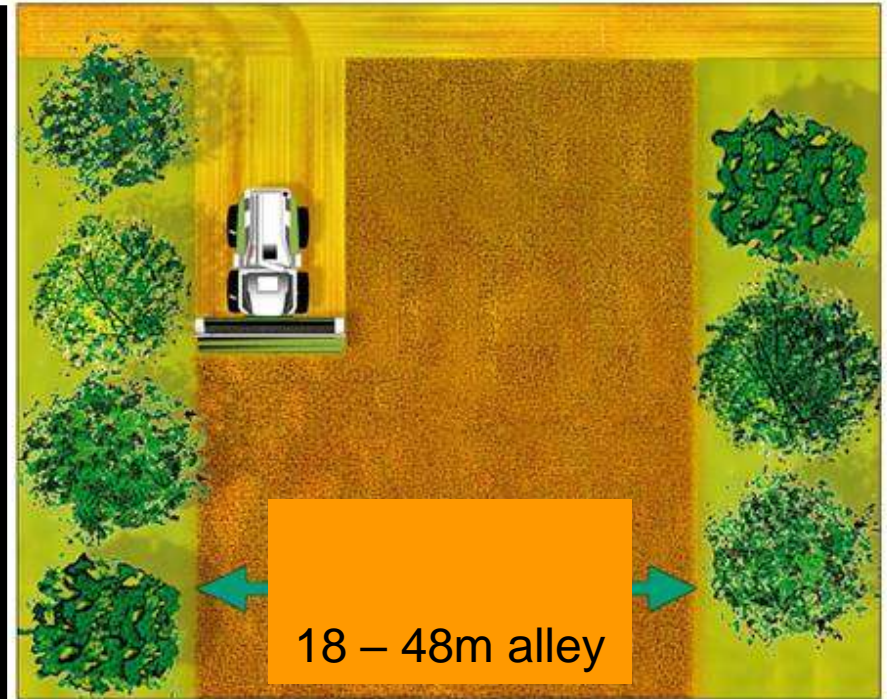


perceptions
vs
system realities



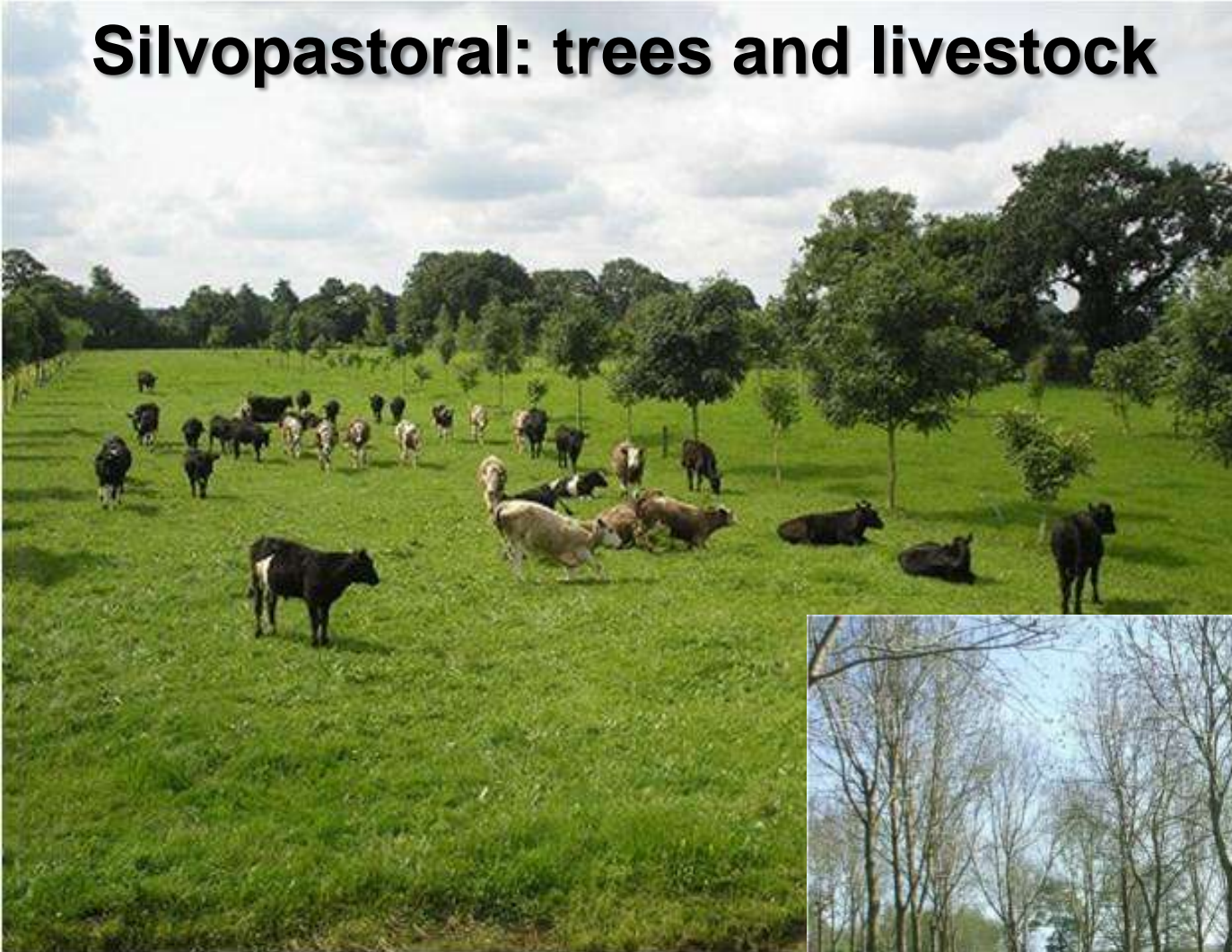
Agroforestry is not a mixture of agriculture and forestry : it's a integrated land use system

'modern systems adapted to modern agriculture'



Complementary Combinations are Key

Silvopastoral: trees and livestock



Silvo-arable : crops & trees



Using field scale machinery

Crop rotation & timescales longer



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Hedge & Hedgerow



English lowland agriculture



Upland systems



Agroforestry plots
at Glensaugh



Woodland grazing



Pontbren



Pontbren Farmers
"Caring for the environment; farming with care"

The Pontbren Farmers Group

Welcome to Pontbren, a group of 10 neighbouring small farmers and their families located in the heart of the Welsh countryside. The group is committed to farming at the highest possible standards of environmental management and animal welfare.

The Pontbren initiative was recognised and encouraged by a visit from HRH the Prince of Wales in July 2006.

Pontbren News
HRH The Prince of Wales at Pontbren

More information

- About Us
- Project Background
- Our environmental work
- Research
- Environmental benefits



Business benefits

- Increase in farm net income
- Improved efficiency of livestock enterprises
- Future proofing
- Reducing the risk of water pollution and biosecurity



Environmental protection



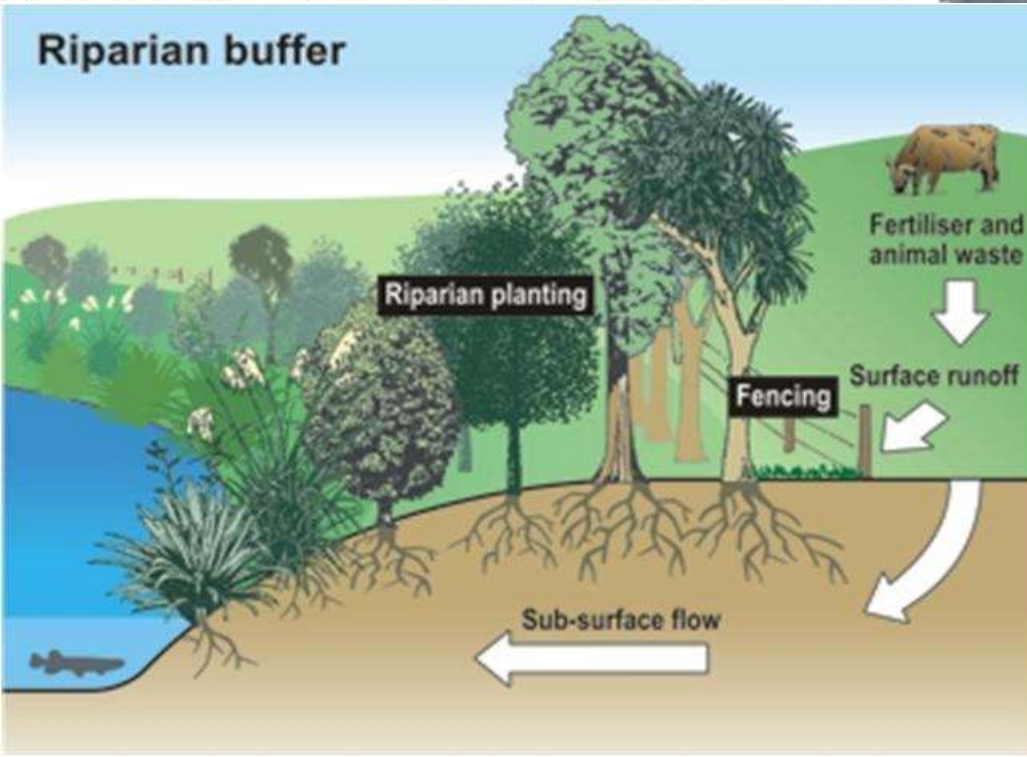
Riparian zones



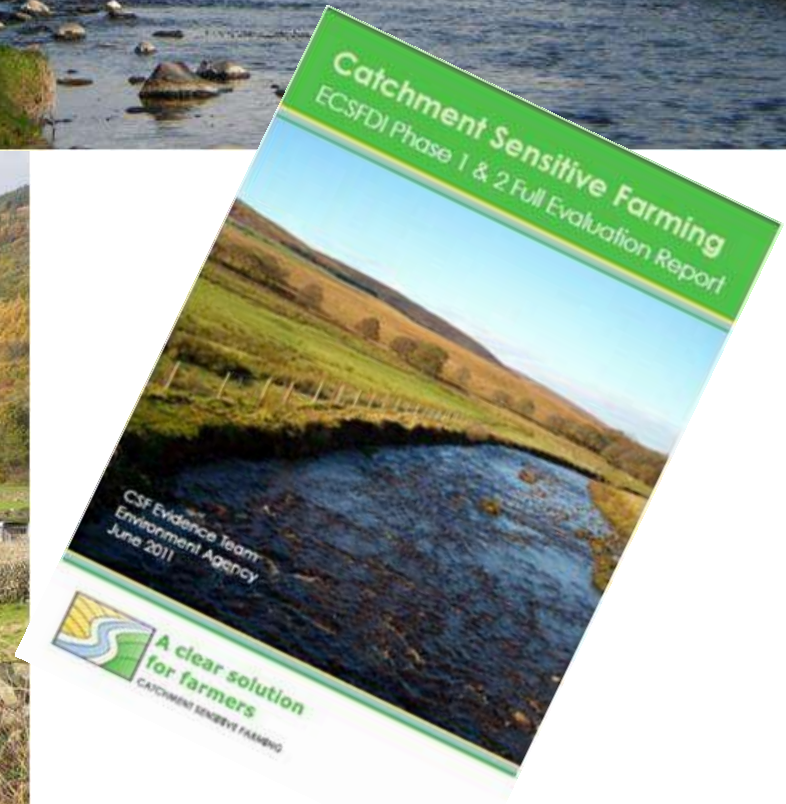
Riparian systems



Riparian buffer



Catchment scale





Windbreaks



Shelter Belts

Silvo-pastoral: trees and livestock

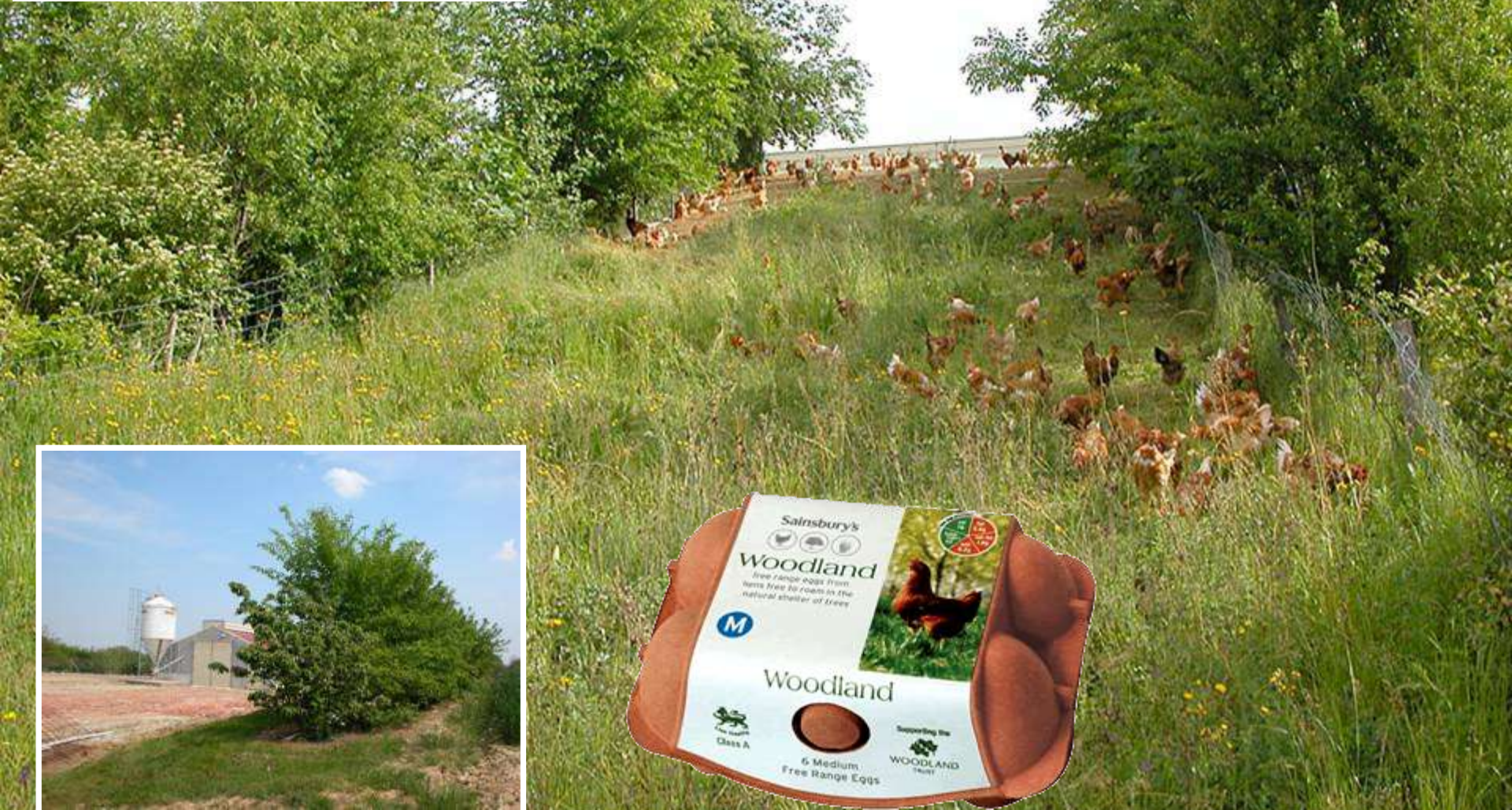


Tree forage – increasing interest

- Trace minerals
- Protein rich leaves
- Medicinal benefits
- Diet supplementation
- Willow & poplar browse?



Poultry



Timber products

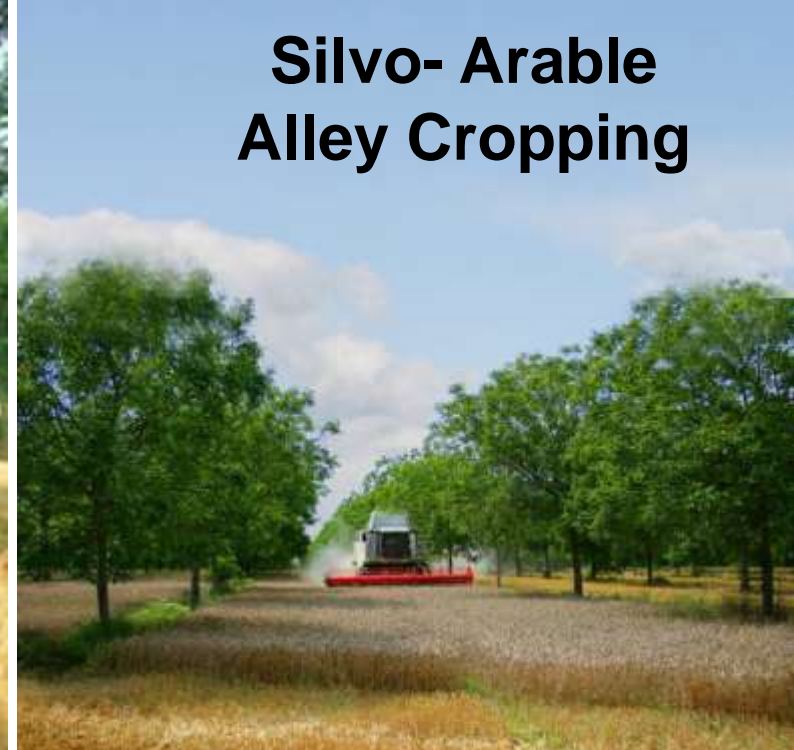


Ga



Biomass

Silvo- Arable Alley Cropping



Fruit & Nuts



Timber products



Biomass

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Gloucestershire
Poplar



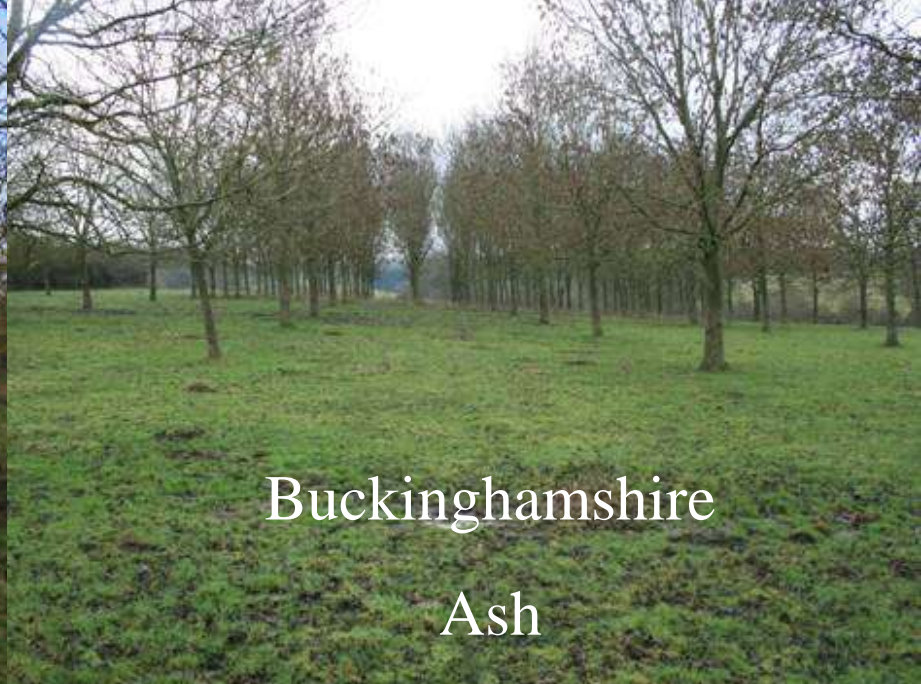
Devon Poplar



Gloucestershire
Apples



Buckinghamshire Walnut



Buckinghamshire

Ash



Cambridgeshire

Apples



Suffolk (mixed spp)

Wakelyns Agroforestry, Suffolk



Silvopoultry at Sheepdrove Organic Farm, Wiltshire

An innovative agroforestry system that recreates a woodland environment within the context of a commercial organic mixed farming system.

Multiple objectives:

- To provide living conditions that allow chickens to express their basic behaviour
- To supply food sources for nutritional and health benefits for the chickens from a variety of sources, trees, shrubs, herbs as well as grass/clover leys
- To provide an enriched landscape for the farm to encourage an increase in biodiversity
- To provide a community asset in terms of landscape and the opportunities to gather hedgerow fruits.



Arable/pasture/beef

Peter Aspin

Silvaspin

Shropshire





fai

Oxford

506ha mixed farm

Organic silvopoultry systems:

Tree/hedge rows with poultry sheds in alleys

Other opportunities include pollarding willows for multiple uses (bio-energy, feed) .

Interested in farm-scale assessment of the potential and commercial viability of agroforestry using existing woody resources



David Rose - FarmeEco

Nottinghamshire

25 acre Apple agroforestry and cereals



Little Hidden Farm, Hungerford

Planted 1993

- 4 crop species: black walnut, ash, oak, wild cherry
- Interplanted with lime, alder and hornbeam
- Pasture – silage and sheep grazing in 13m wide alleys



Tim Downes

Shropshire Dairy Farmer

Shelter

Tree forage

Diet diversity

Medicinal



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Bluebell Farms Ltd



Agroforestry into practise

- 270 acre organic farm
- Owned, tenanted
- 125 acre agroforestry



Drivers

- Multifunctional land use
- Cropping & enterprise diversity
- Soil protection
- Conservation & Habitat creation
- Market opportunities

Soil erosion - a serious issue!



Limitations

- 15yr tenancy
- Retain BPS eligibility
- Capital
- Profitability
- No livestock facilities



Agroforestry system - 85 trees per ha



Apples & Arable crops



3m



24m

3m

Layout

- 85 Vs 850 trees per ha
- 3m between each tree in the row
- 27m between each row
- 3m pollen rich strip under trees
- 24m working width between rows





Tree & Variety

Pinova	388
Fiesta	313
Red Devil	195
Limelight	184
Red Windsor	540
Rajka	300
Red Falstaff	1102
Herefordshire Russet	350
Saturn	278
Bramley	482
Adams Pearmain	90
Ashmeads Kearnell	89
Chivers Delight	89

- Rootstock & Vigour
 - MM106
- Pest & Disease tolerance
- Soil suitability
- Drought & scab tolerance
- Low input 'easy care' system
- Eating vs Juicing
- Heritage vars. to aid pollination
- Picking – mid Sept (Red Windsor) to late October (Pinova)











**3m wide Nectar & Wild flower
strip Under tree rows**













Farmers could easily adopt agroforestry on at 20% of their land

Agroforestry is one of the few options with the potential to help reduce greenhouse gas emissions, help protect natural resources whilst at the same time producing more food and biomass

Trees will grow in most places !



Agroforestry = 'Ecological' intensification

SUMMARY;

- Improved resource capture and use
- 70-200 trees/ha density ideal on 24, 36m alleys
- Profitability equal to or greater than monoculture
- Alley crops maintain annual income -Trees provide long term income & capital asset

CHALLENGES;

- Land tenure
- Pillar I – Greening & EFA options
- Pillar II – article 23 (80% funding) or Countryside Stewardship
- Recognition by Gov agencies & NGO's
- Skills & Knowledge
- Profitability

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Thank you

Stephen Briggs

