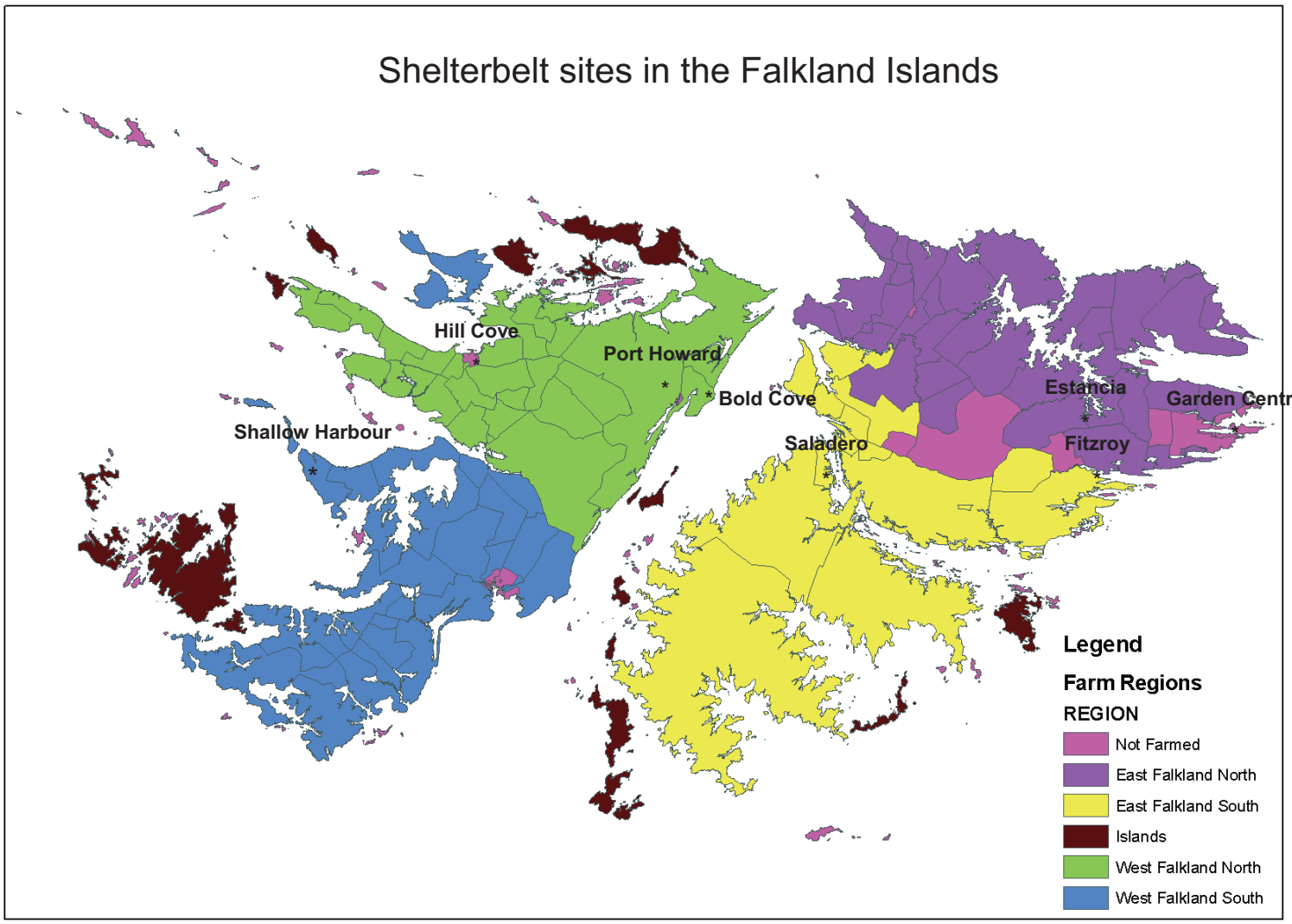
Preliminary assessment of Shelterbelt Research Programmes Falkland Islands 2007

Rodrigo Olave

United Kingdom Falkland Islands Trust (UKFIT)
Department of Agriculture (DoA)
Agri-Food & Biosciences Institute (AFBI)

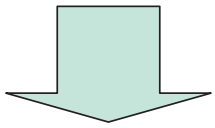
Agriculture programmes in the Falkland Islands (DoA)

- Business skills development
- ***Wool & meat development (ET/AI – PIP)***
- Fish, animal and plant health
- Biosecurity strategy

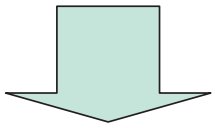

Shelterbelt sites in the Falkland Islands
Hill Cove
Port Howard
Bold Cove
Shallow Harbour
Saladero
Estancia
Garden Centre
Fitzroy
Legend
Farm Regions
REGION
Not Farmed
East Falkland North
East Falkland South
Islands
West Falkland North
West Falkland South

Performance of a shelterbelt

Tree growth – Meteorological conditions – Ground factors



Tree height
Stem diameter (at 20 cm from ground level) and DBH (Hill Cove)
Survival
Tree health (needle/leaf loss - degree of yellowing)
Foliar analysis (Nutrient status & interpretative criteria for Lodgepole pine)
Soil analysis (Phosphorus generally low – other macro & micronutrients)



To make an efficient impact on the whole farm system without covering large areas in trees.

Hill Cove

Date of planting: 1925

Mean height: 16.6m

Species: Sitka spruce

UKFIT

Fitzroy/Garden Centre

Date of planting: 1990

Mean height: 3.8m

Species: Lodgepole pine/Sitka spruce

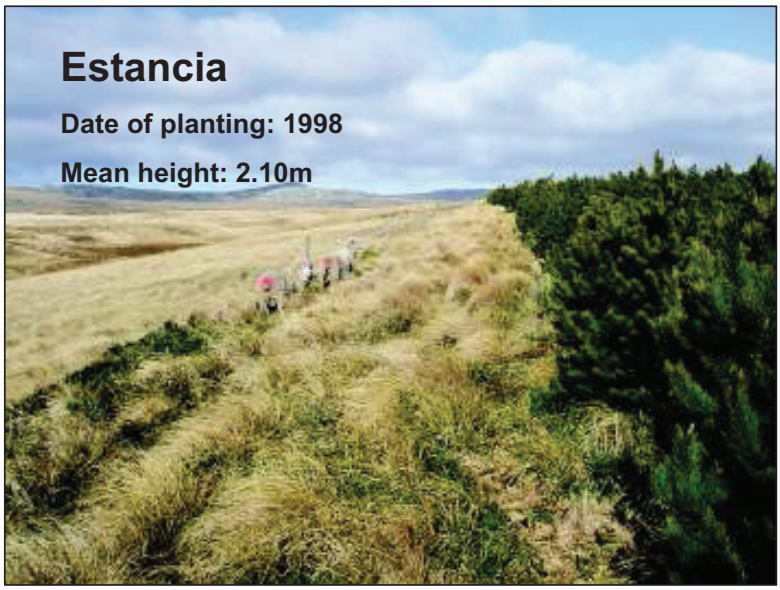
DoA

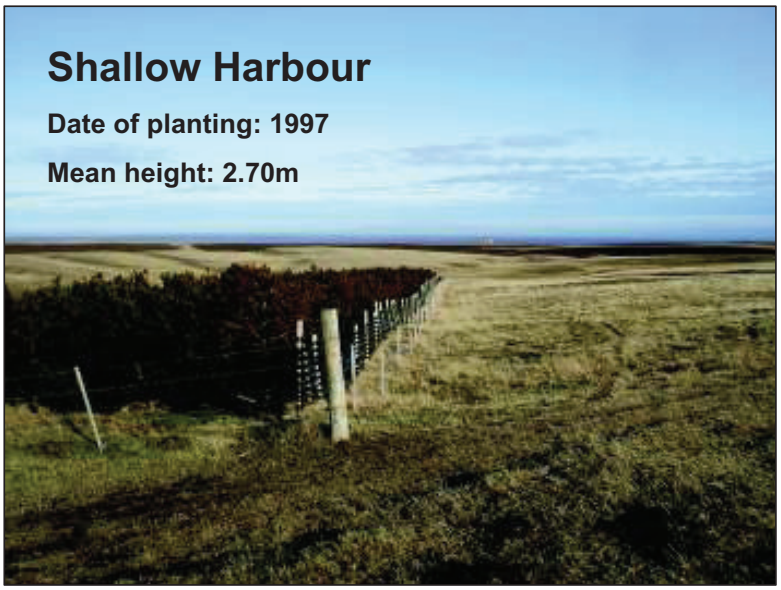
Saladero

Date of planting: 1998

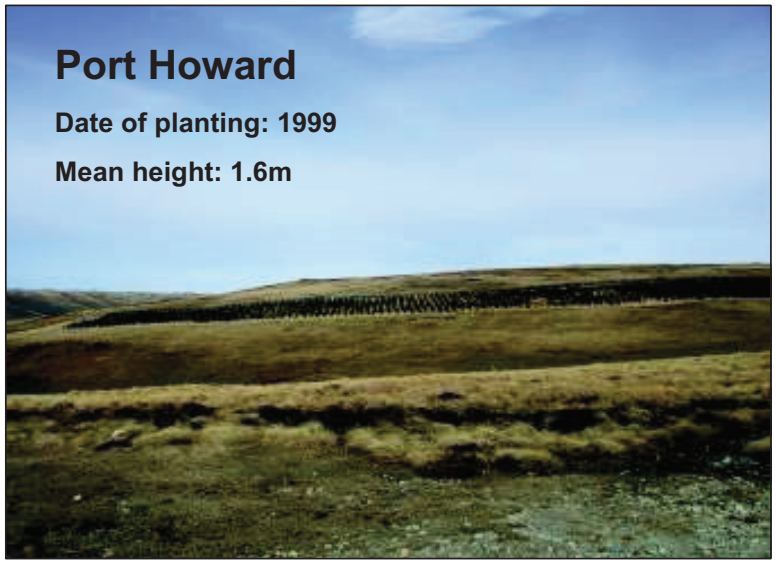
Mean height: 2.3m

Species: Lodgepole pine/Macrocarpa/Radiata pine/Austrian pine/southern beech

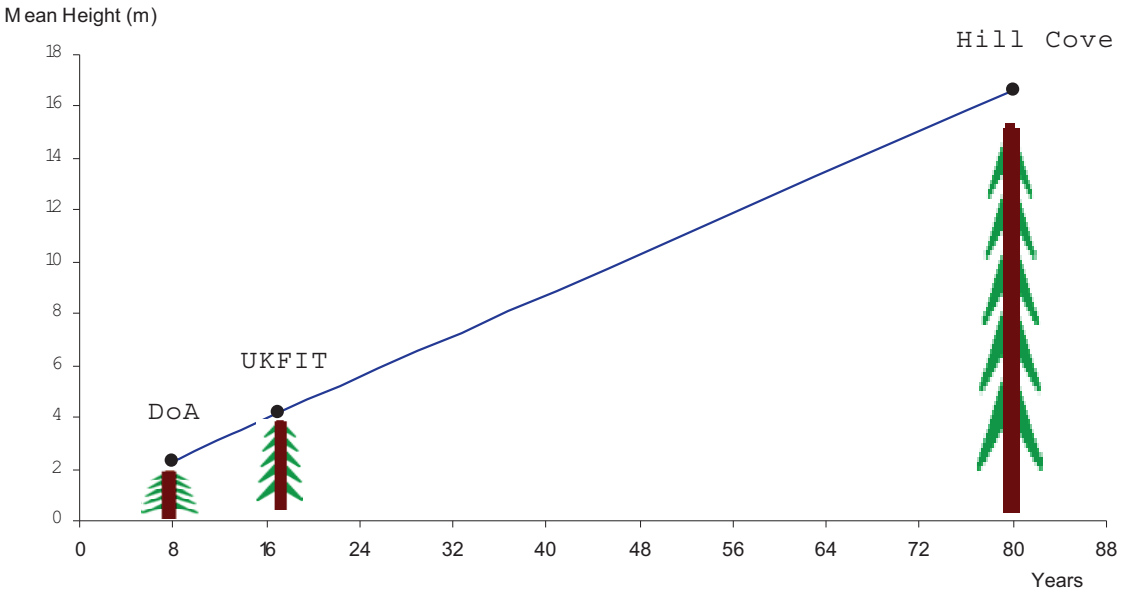

Estancia
Date of planting: 1998
Mean height: 2.10m

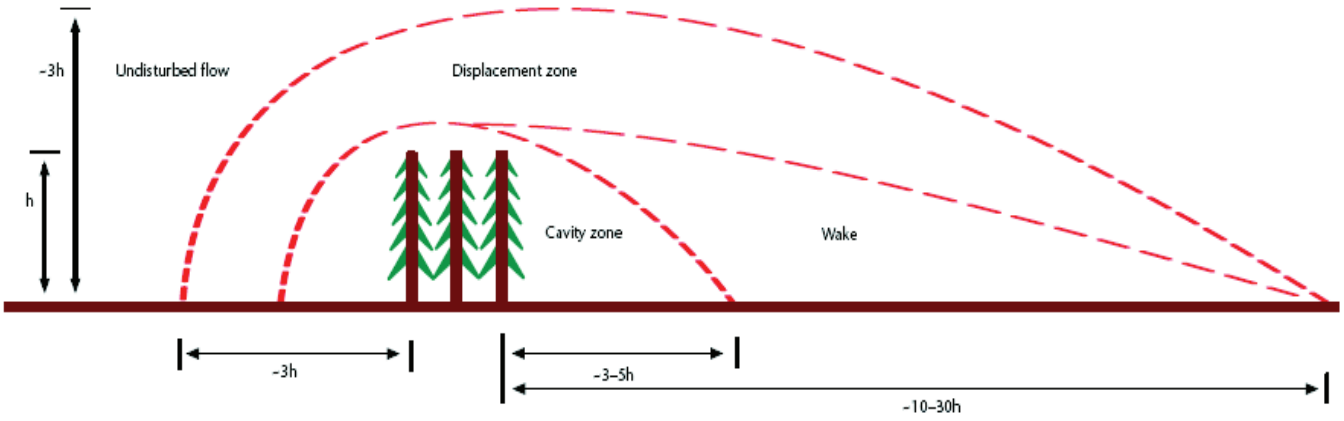

Shallow Harbour
Date of planting: 1997
Mean height: 2.70m

Bold Cove
Date of planting: 1999
Mean height: 1.65m


Port Howard
Date of planting: 1999
Mean height: 1.6m

Mean height of shelterbelts in the Falkland Islands / 2007





Speeding up the growth of Shelterbelts

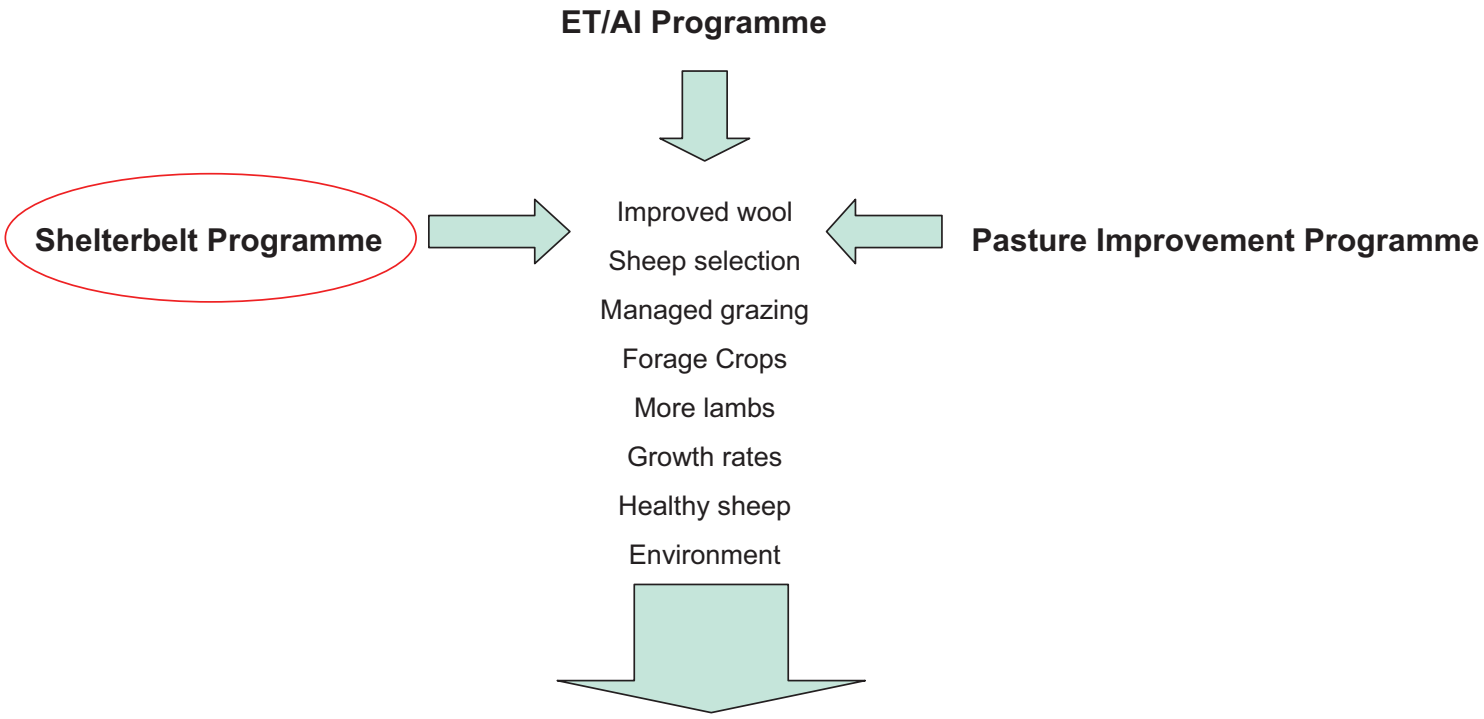
- Correct species choice/testing (Tall grasses, shrubs & trees etc.)
- *Local & high quality plant propagation* (**Implementation of enhanced skills**)
- Mycorrhizas (Improve nutrient uptake)
- Site selection (strategically and using GIS tools)
- Pre planting weed control
- Post planting weed control
- Ground preparation
- Fertilisation
- Fencing and plant protection
- Top technical supervision

Outputs of this research

- Cost/Benefit Analysis (NPV – ROR)
- Shelterbelt growth model

Future research needs

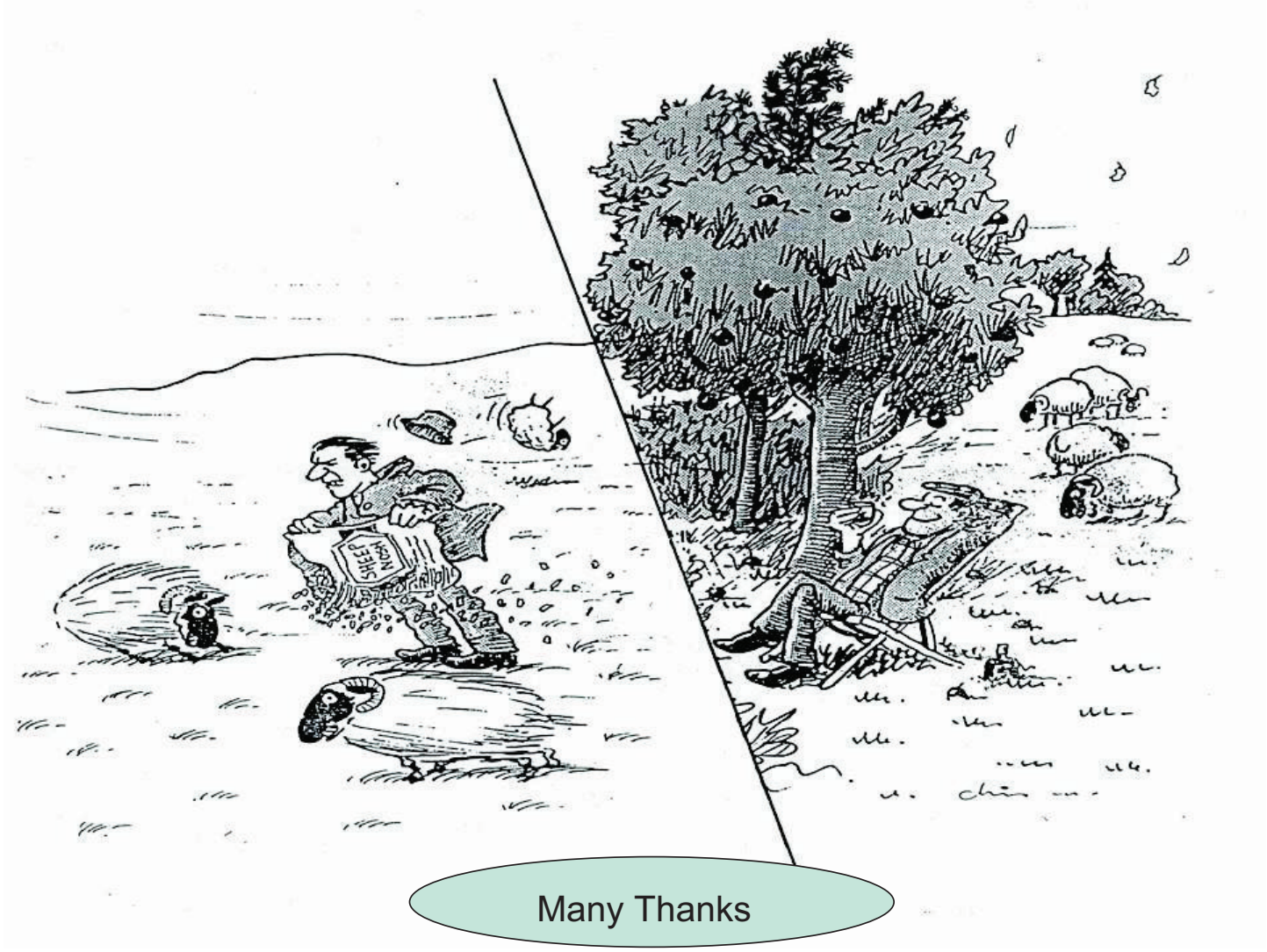
- Testing & Propagation - domestication of other species
- Grazing & Pasture growth in the lee of a shelterbelt
- Lamb survival
- Sheep loses and recovery after shearing
- Environmental effects (exotic species, landscape)



Wool and Meat development

Higher incomes to farms

Greater revenue to the islands


Many Thanks