

ADAS Sustainable Crop Management

Contact: James Clarke Tel 01954 268219, e-mail James.Clarke@adas.co.uk




The effects of the legislation on food availability, quality and price - examples from key arable and horticultural crops

James Clarke
Science and Business
Development Manager




www.adas.co.uk

What we did




- Independent assessment and report
 - Commissioned by ECPA
- Establish agronomic effects of lost active substances
- Calculate loss of yield and quality
 - Area weighted to account for incidence of weed, pest or disease
- Quantify changes in crop protection costs
- Estimated effects on gross margin (indication of potential price changes)
- Carbon footprint calculated from methodology under development in Defra FO0404 project as change in CO₂e
 - Driven primarily by yield effects
 - No account at present for changes in N or land use

Crops and scenarios




- Three crops**
 - Wheat – half of area and pesticide use
 - Potatoes – major dietary component, stored
 - Brassica field vegetables – fresh and season long
- Four scenarios**
 - Commission exclusion (CE)
 - Commission substitution (CS)
 - Parliament exclusion (PE)
 - Parliament substitution (PS)




Assumptions


- Based on PSD impacts report (May 2008)
- Assessed for 3-5 years after change
 - Accounts for resistance development
- Effects mitigated by existing technology (cultivation, resistant varieties etc)
- No account of mitigation through new technology
- No adjustment to prices for financial impacts
- Normal crop yields (national averages in typical year)




Winter wheat




- Production approx 2m ha; 16 m tonnes
- Very widely grown in UK
 - c.50% of total crop area
 - c.50% of total pesticide use
- Bread, biscuit, animal feed, distilling, bioethanol



Potatoes for ware production



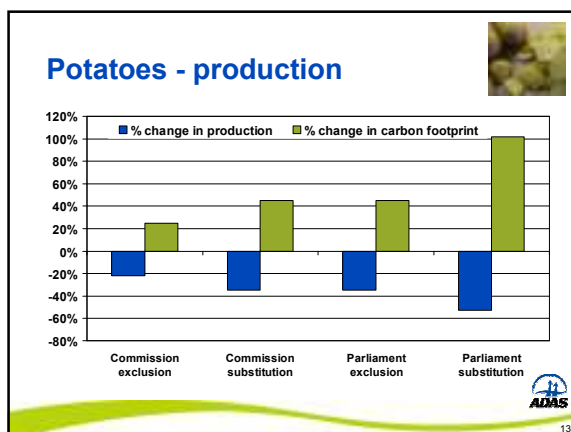
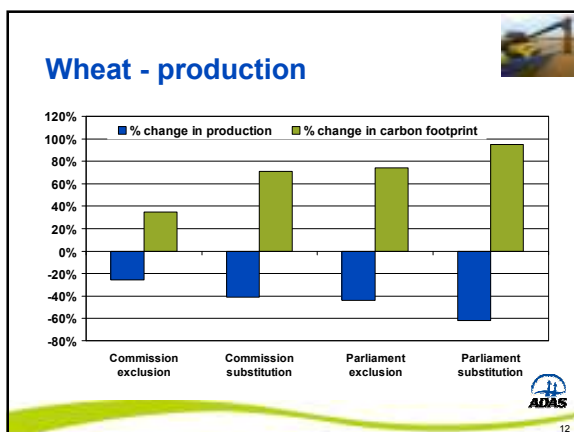
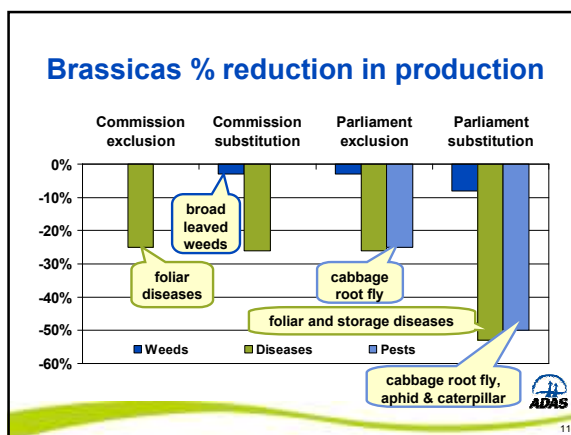
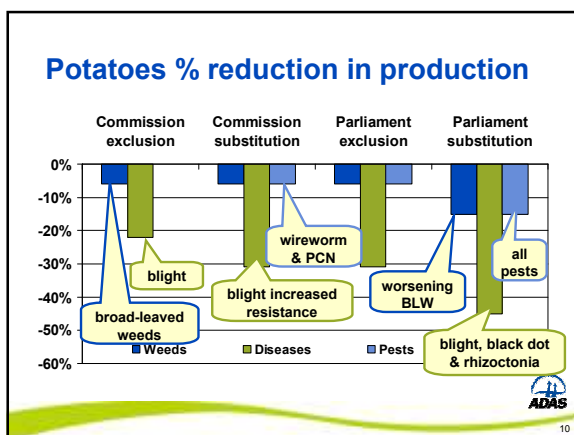
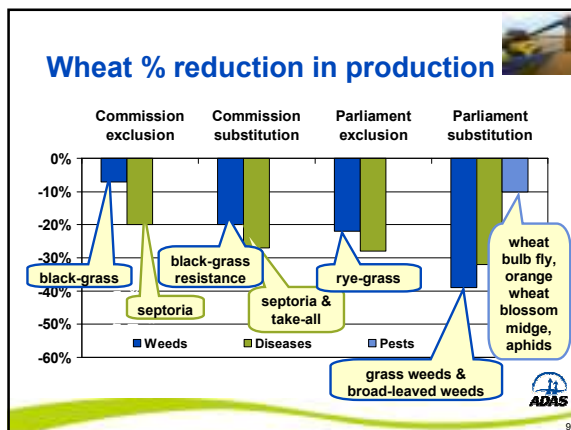
- Production approx 125,000 ha; 5.6 m tonnes
- Localised and specialised production
- Fresh or stored sale as ware; processing (crisps, chips)
- Major user of pesticides, especially for potato blight control



Brassica field vegetables

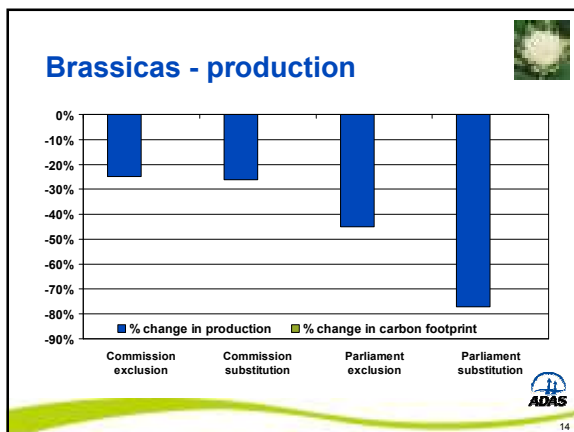
- Production approx 28,000 ha; 0.5 m tonnes
 - Cauliflower 10,250 ha; Cabbage 7,800 ha; Calabrese 7,400 ha; Brussels Sprouts 3,300 ha
- Crop value c.£200 m in 2006
- Important dietary intake
- Year round supply and production
- Marketed fresh, stored and processed
- Specialist production





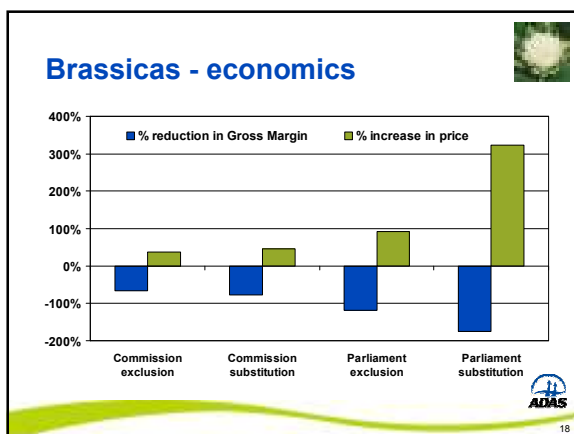
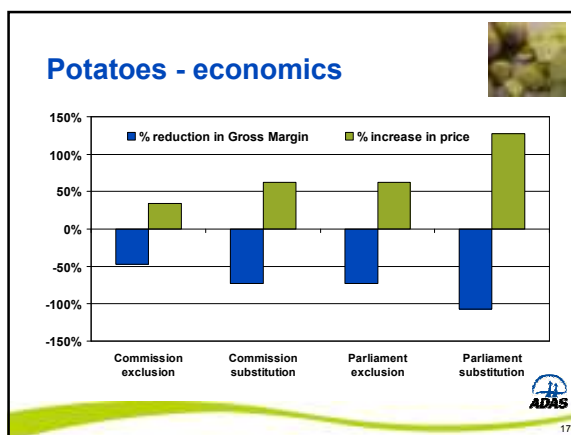
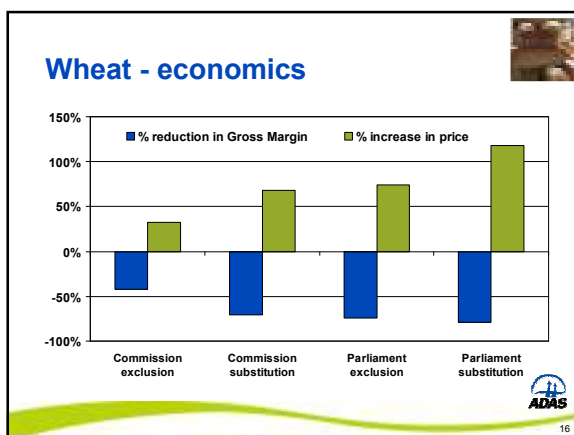
ADAS Sustainable Crop Management

Contact: James Clarke Tel 01954 268219, e-mail James.Clarke@adas.co.uk



Implications for prices

- Estimated for discussion at this meeting
- Gross margin implications an indicator
- Price increase to maintain current gross margin
 - No account of market drivers or changed consumer preferences
 - How much substitution?
 - Wheat – animal feed
 - Potatoes
 - Brassicas



Key conclusions (1 of 2)

- Lowest impact (CE) reduces production by 25%
- CS & PE similar outcomes – reducing production by 35-45%
- PS most severe impact – all crops reduced production by at least 53%, and would result in industry restructuring
- In all cases significantly larger, and not available, land area required
- Price increase necessary to compensate for changes typically:
 - CE – 25%; CS & PE – 70%; PS – 100%

ADAS Sustainable Crop Management

Contact: James Clarke Tel 01954 268219, e-mail James.Clarke@adas.co.uk

Key conclusions (2 of 2)



- Major effect varies on different crops
 - Disease control major problem in all crops
 - Wheat – weeds also important
 - Vegetable brassicas severe effect from pests from PE and PS, and become uneconomic
 - Pesticide resistance management a key issue
 - Need full understanding in whole food chain on impact of proposals on fresh food quality, continuity of supply and seasonality
 - Wheat and potato carbon footprints increased by:
CE – 25-30%; CS & PE – potatoes 45%, wheat 74%; PS - over 95%



20