

# Growing for Quality Spring barley varieties

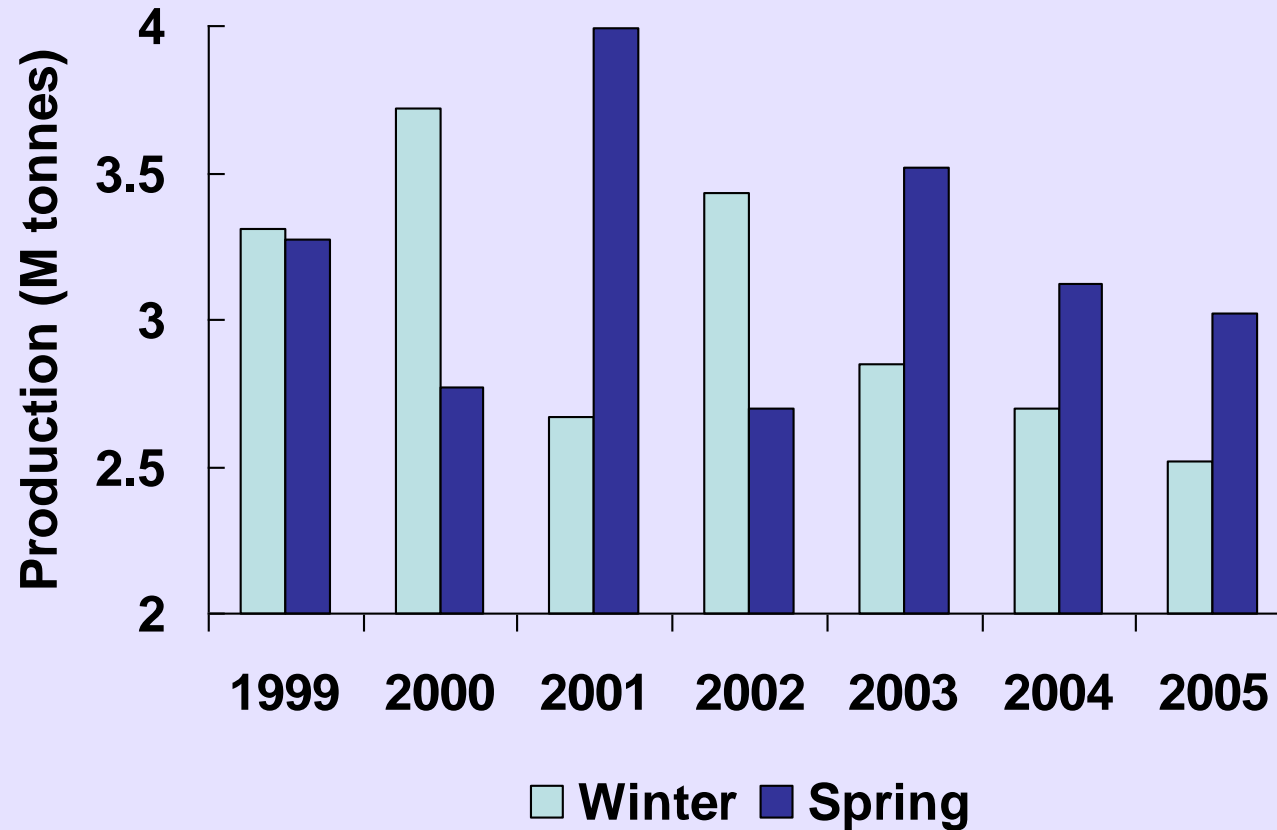
Bayer CropScience

Crieff, 25<sup>th</sup> January 2006

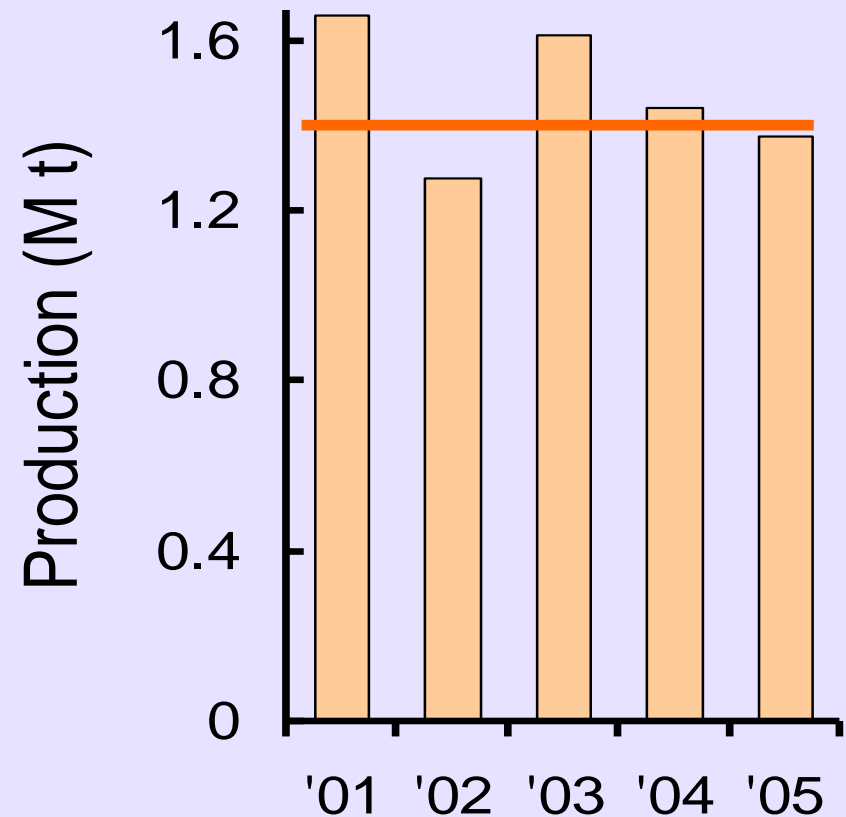
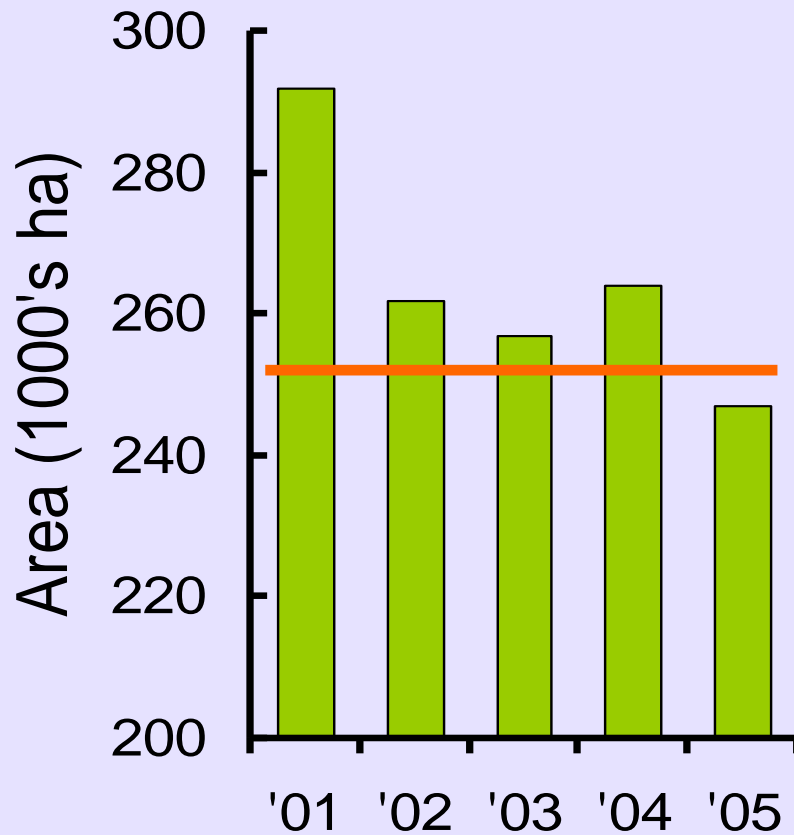
Steve Hoad, Cereals Specialist

- Growing for the market
- Current and new varieties
- Agronomic strengths and weaknesses

# UK barley production



# Scottish spring barley production

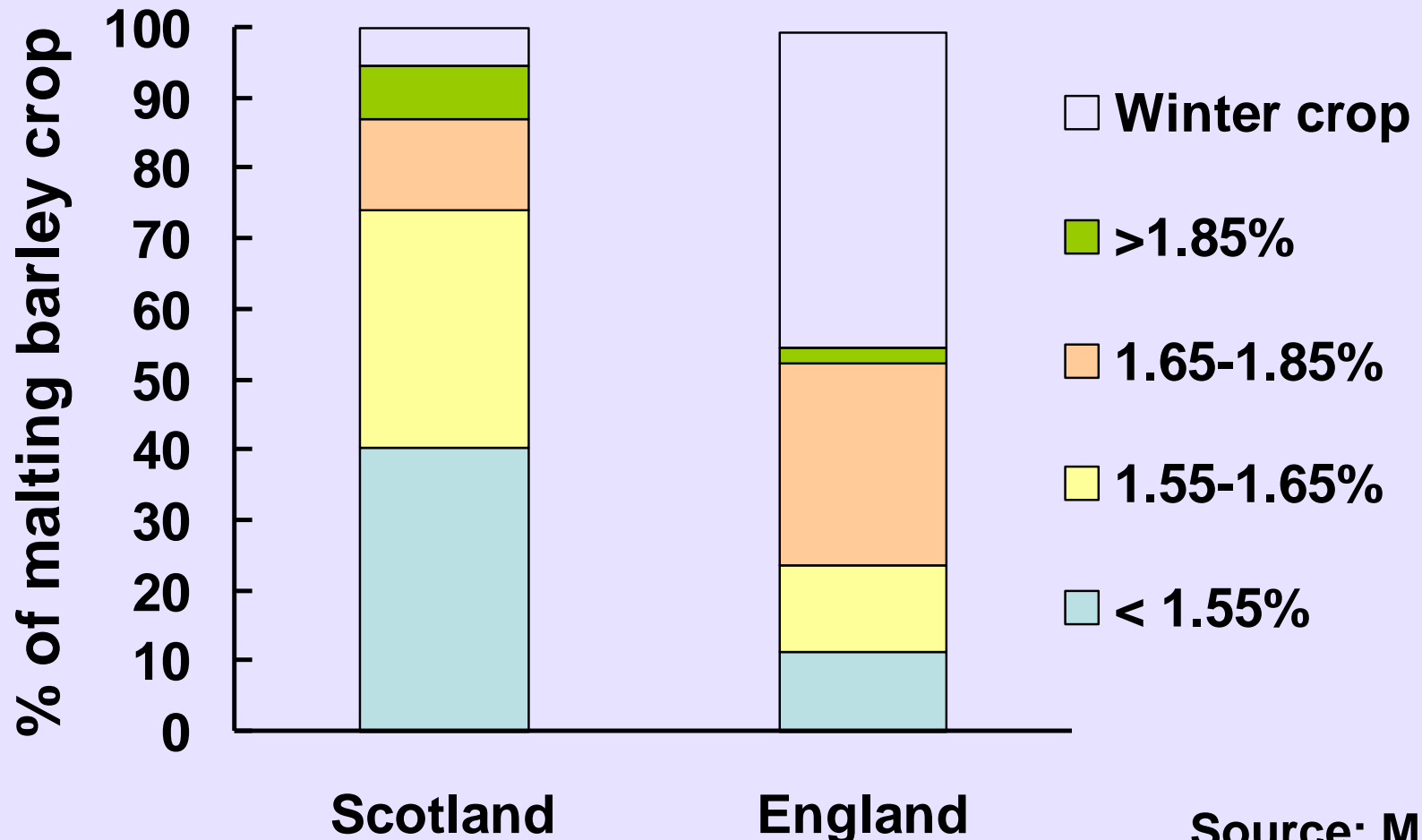


Source: HGCA/SEERAD

# Maltsters *wish-list* from 2005 crop as % of Scottish and English barley

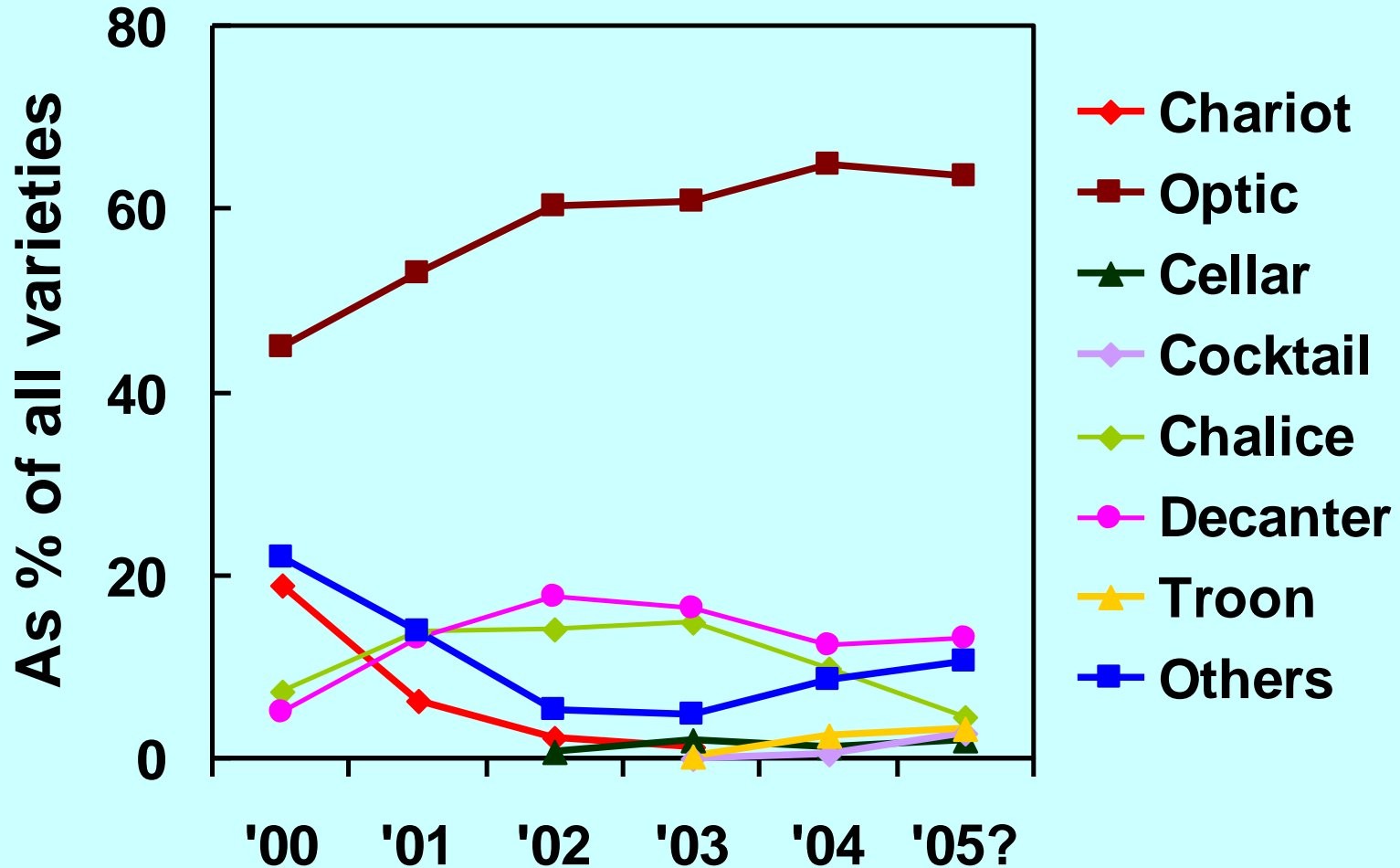


## Requirements based on Nitrogen Bands



Source: MAGB

# Varieties used by maltsters: based on purchases in Scotland from 2000 to 2005



Source: MAGB

# Malt distilling

- **Low grain nitrogen %**
- **High predicted spirit Yield**
- **High level of modification**
- **Low screenings**
- **Low GN**

# Grain distilling

- **High grain nitrogen %**
- **High enzyme levels (DP and DU)**
- **Tendancy for high extract**
- **Low GN**



# Brewing



- **High malt extract**
- **High level of modification**
- **High soluble nitrogen ratio**
- **High ease of filtration**

As new varieties come along be aware about size of market sector



## **Optic has wide appeal**

e.g. 1.3%N malt distilling  
1.65%N brewing  
1.75%N export markets

## **Distilling only variety**

>1.7%N = feed

## **Brewing only variety**

<1.6%N = feed

# Variety recommendation system



IoB Approval system is now based on market use

From Approval for use in South, North or UK

To Approval for Brewing, Distilling or both

# Current malting choice (fully R)



- **Optic**: Wide market appeal across N% bands; used for brewing and malt distilling
- **Decanter**: Only recommended variety suitable for grain distilling
- **Troon**: Approved for malt distilling
- **Cocktail**: Approved for brewing and malt distilling: market share growing in England, tendency to low N%

# Optic (yield = 99)

- High spirit yield, low grain N%, good malt yield. Recognised outside of UK, plenty of supply. Low TGW and moderate to high screenings
- Vulnerable to both mildew (5) and *Rhynchosporium* (4) and moderate for brown rust. Hence very low untreated yield. Produces a high number of shoots

# Decanter (yield = 97)



- Malt and grain distilling. Moderate spirit yield, moderate malt yield. Grown for both high and low grain N% markets. High screenings risk
- Mildew (9) and *Rhynchosporium* (6). Lodging (9). Good resistance to brackling (8)

# Troon (yield = 100)

- High spirit yield, high malt yield.  
Supported for malt distilling market.  
Slowly rising market share. Low screenings risk (bold grain). Mod to High grain N%
- Mildew (9) and *Rhynchosporium* (4).  
Lodging (8). Brackling risk (7).

# Cocktail (yield = 104)

- A good malt yield. Low grain N%. Rising market share (especially in England). Higher screenings risk than Optic. Relatively low TGW.
- Mildew (7) and *Rhynchosporium* (5). A short variety with very good lodging resistance (9). High resistance to brackling (9)



# Varieties with provisional loB approval for malting



- Oxbridge (malt distilling only)
- Westminster (brewing only)
- NFC Tipple (brewing only)

All in second year of recommendation [P2] and under loB testing. All are high yielding and with lower screenings than Optic and Cocktail.

# Under test for provisional IoB approval



- Appaloosa (malt distilling only)

In first year of recommendation [P1] as a variety for NE. Under IoB testing. Highest yielding malting variety on RL.

# Oxbridge (yield = 105)



- Malt and spirit yield just above Westminster and Optic. Low grain N%. A malt distilling variety. High specific weight, and low screenings risk.
- Relatively poor against mildew (7), but good for *Rhynchosporium* (7). Stiffer straw than Optic, and much better against brackling (8).

# Westminster (yield = 105)



- Very high malt yield. Low-moderate grain N%. Regard as a brewing variety: does not match requirements for limiting GN. Good specific weight and low in screenings risk.
- Excellent ratings against mildew (9) and *Rhynchosporium* (8). Very tall (84 cm). Not as stiff as Decanter or Oxbridge. Moderate resistance to brackling (7)

# NFC Tipple (yield = 107)



- Malt yield just above Optic. Low-moderate grain N%. A brewing variety. Lowish specific weight, and moderate screenings risk.
- Excellent rating against mildew (9), though weak for *Rhynchosporium* (4). Shortest malting variety. Stiff straw and good brackling resistance (8)

# Appaloosa (yield = 109)

- Very high yield. Potential for malt distilling. A non-GN producer. Similar low grain N% to Optic and Cocktail. Above average for screenings.
- Mildew (8), weak for *Rhynchosporium* (4). Similar height to Optic, but stiffer straw (9). Maturity same as Optic. Good against brackling (8).

# Agronomy compared to Optic



	Westminster	NFC Tipple	Oxbridge	Appaloosa	Optic
Yield	105	107	105	109	99
Grain N (%)	Mod	Low-mod	Low	Low	Low
Screenings (%)	5.7	6.9	4.8	11.0	10.0
Mildew	9	9	7	8	5
Rhyncho	8	4	7	4	4
Lodging	8	9	9	9	8
Ripening*	+1	+1	0	+1	+1
Brackling	7	8	8	8	5

\*Ripening  $\pm$  Optic

# Chalice (yield = 98)



- Becoming outclassed. Declining interest, but retains IoB Approval for brewing. Moderate for malt yield, spirit yield and grain N%. Moderate for screenings.
- Mildew (9), weak for *Rhynchosporium* (5). Straw strength (8). Early ripening with poor green leaf area retention.



# Braemar (yield = similar to Optic)



- Similar malt yield to Optic. High spirit yield. Bold grain with low screenings.
- Mildew (9), very weak for *Rhynchosporium* (2). Straw strength (8). Good resistance to ear loss.

# Selected as potential malting varieties: in trials 2006



- ◆ **Quench** Very high yield (110). Stiff straw. Excellent against mildew and *Rhynchosporium*.
- ◆ **Publican** Very high yield (108). Excellent disease resistance ratings. Brackling risk?
- ◆ **Taphouse** Very high yield (108). Moderate for lodging? Poor against *Rhynchosporium*. Low brackling risk.
- ◆ **Prague** Good yield (106). Good against mildew, poor against *Rhynchosporium*. Brackling risk?

# Feed opportunities



	Yield	Height*	Mil	RLB
Rebecca [R]	107	+7	7	7
Doyen [R]	105	-4	7	8
Power [P2]	107	-3	8	6
NFC Tipple [P2]	107	-8	9	4
Westminster [P2]	105	+9	9	8
Riviera [R]	100	+7	8	5
Static [O]	99	+1	9	5

\*Height  $\pm$  cm to Optic

# Summary



- Understand the market requirements
- Grow for the market
- Consider strengths and weaknesses of new varieties **agronomically** and for **grain quality**

Supporting the  
land-based industries  
for over a century

