

WHAT AFFECTS THE PRODUCTION OF TRUE SEEDS IN PERENNIAL RYEGRASS?

SIMON ABEL & BIRTE BOELT

AARHUS UNIVERSITY

YIELD COMPONENTS

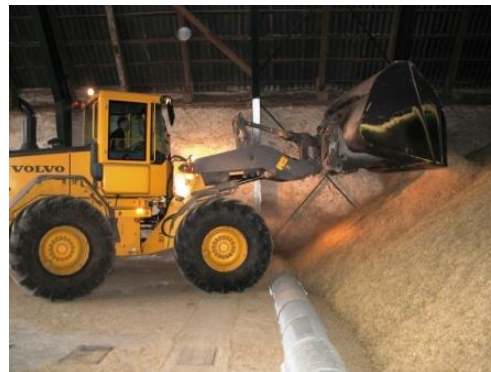
- › The number of reproductive tillers
- › The number of flowers and seed set
- › Seed weight



OPTIMISING YIELDS

> Perennial ryegrass

- > Pollination
- > Seed set
- > Seed weight



EXPERIMENTAL DESIGN

- › Two species
 - › *Lolium perenne*
 - › *Festuca arundinacea*
- › Three moisture levels
- › +/- application of growth regulator
- › Three consecutive years (2010-12)
 - › Field samples were collected early May
 - › Placed in semi-protected area (rain and wind)



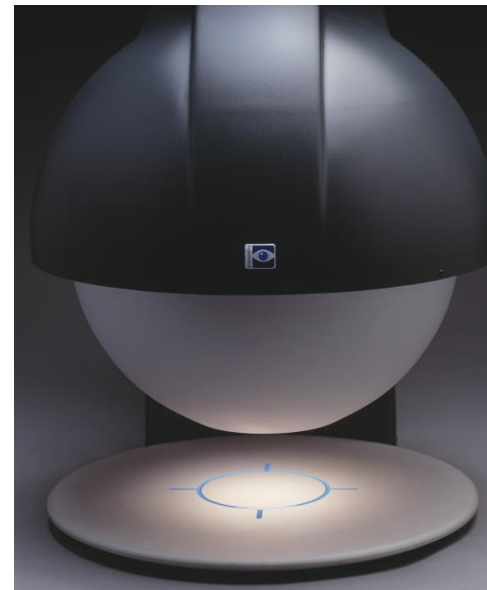
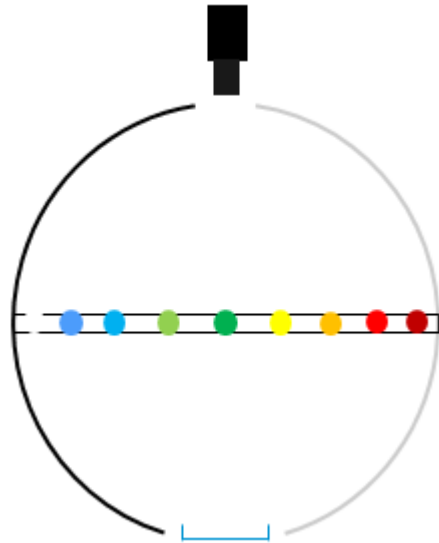
FLOWER AND SEED SAMPLES

› At flowering and at time of harvest

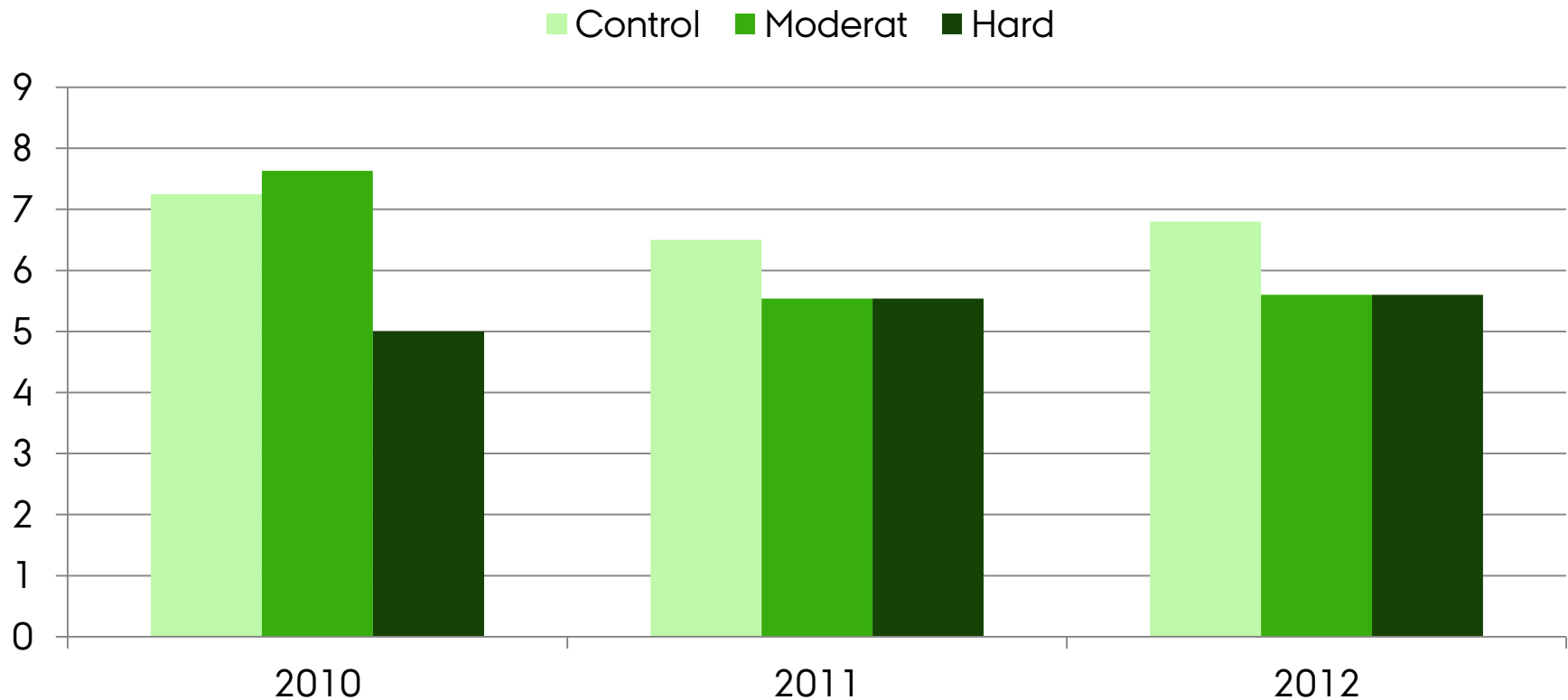


EXAMINING TECHNIQUE

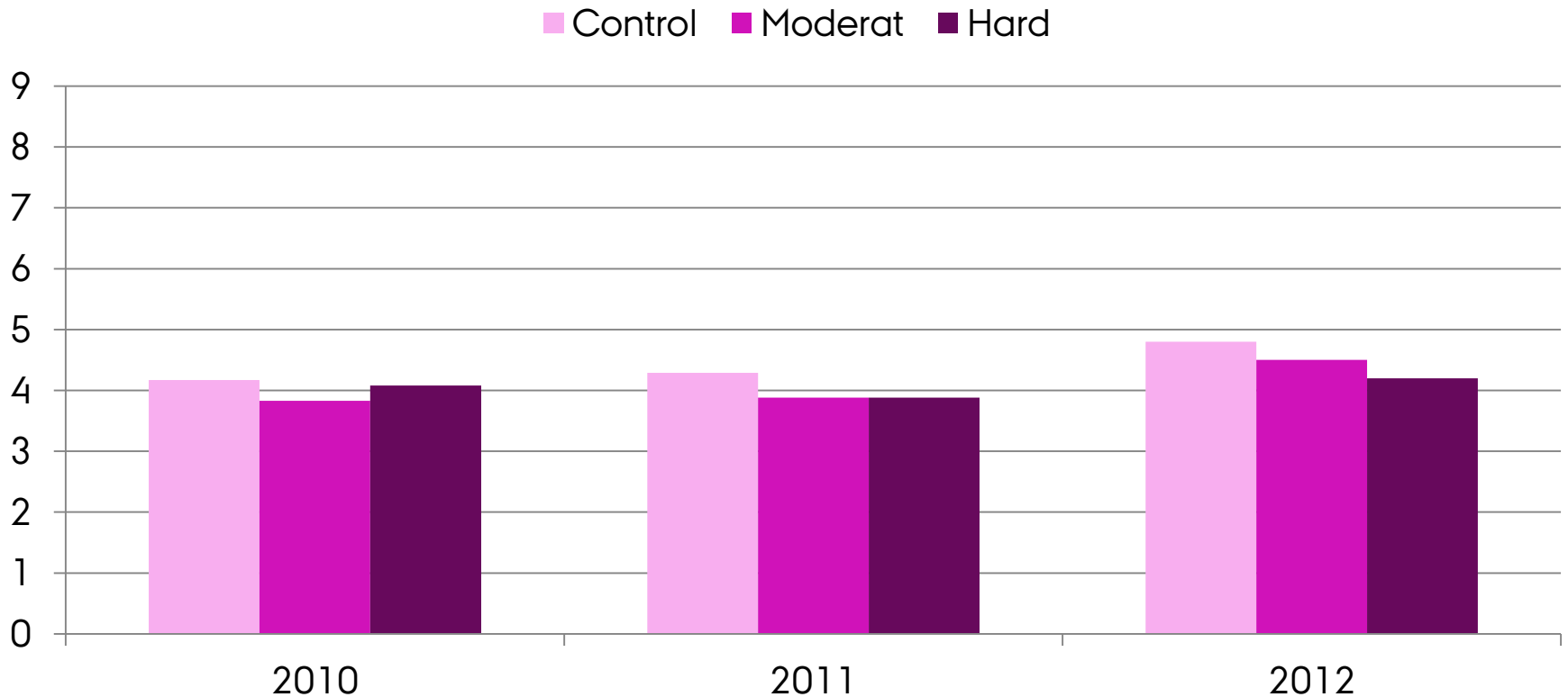
- > Microscope
- > Spectral imaging (incl. backlight)
- > Germination test



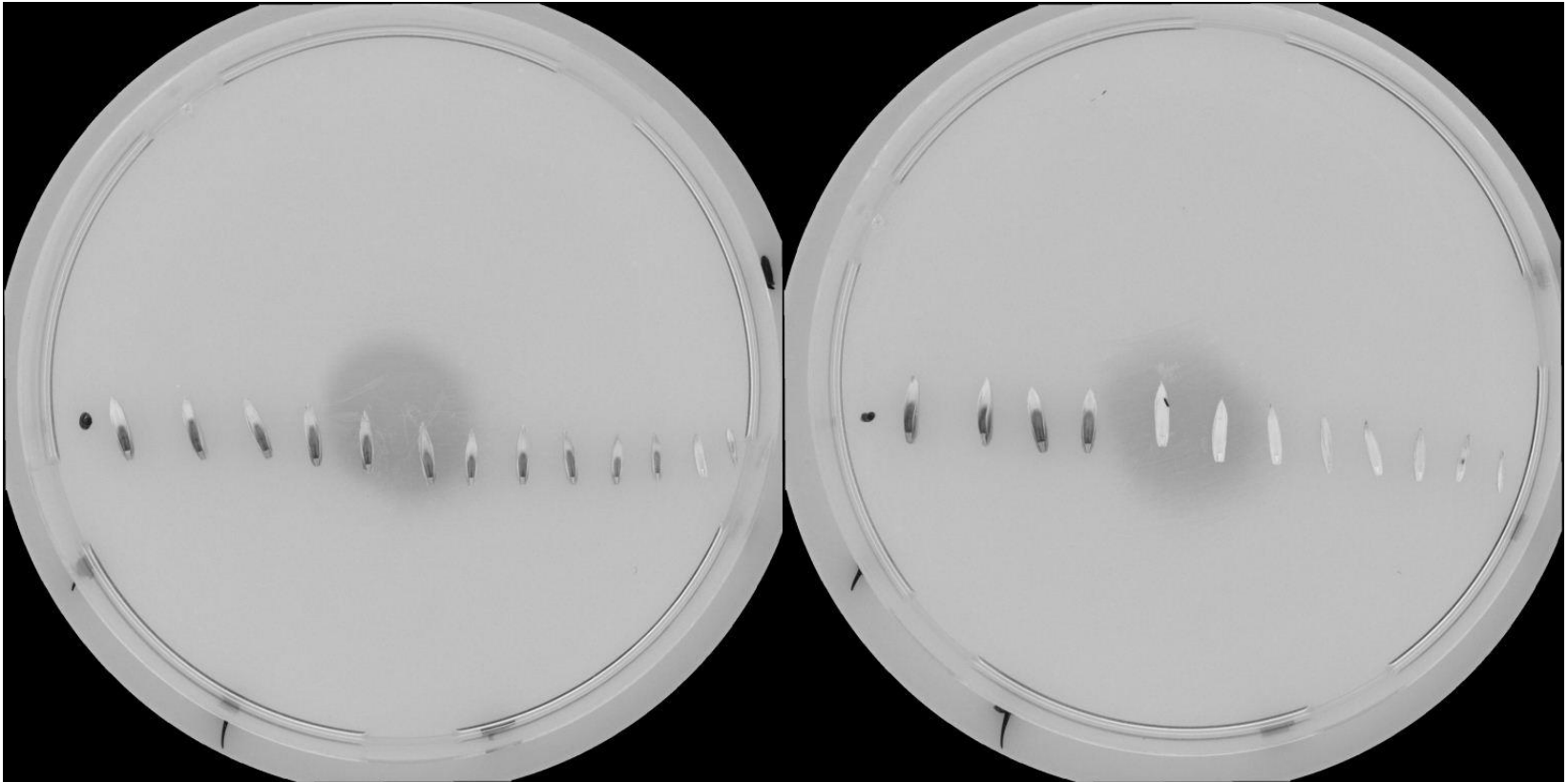
EFFECT OF DROUGHT ON THE NUMBER OF SEEDS PR SPIKE: *LOLIUM PERENNE*



EFFECT OF DROUGHT ON THE NUMBER OF SEEDS PR SPIKE: *FESTUCA ARUNDINACEA*



RESULTS - VIDEOMETERLAB



SOFTWARE ANALYSIS



9 true seeds

Seed length 7,08 mm

Caryopsis 1,3 – 6.0 mm

6 germinating seeds



5 true seeds

Seed length 7,4 mm

Caryopsis 4,3 – 5,5 mm

5 germinating seeds

FUTURE PERSPECTIVES

- › The number of seeds pr. spike
- › Seed set
- › Seed development according to position in spike
- › True seed vs. inert matter
- › Germination vs. seed size