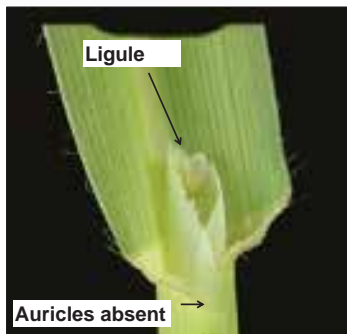
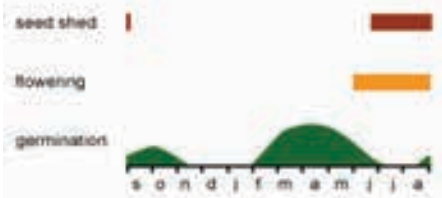




Identification of wild oats

Wild oats

- 1 plants/m² = 1% yield loss
- Confirmed herbicide resistance
- Can germinate from depth
- Two species of wild oat - winter and spring
- Require different management strategies



Avena fatua (Spring wild oat)

- Awns **present** on third seed within spikelet
- Seeds separate when mature and shed singly



Avena sterilis (Winter wild oat)

- Awn **absent** on third seed in spikelet
- Seeds remain attached when mature and shed as a unit



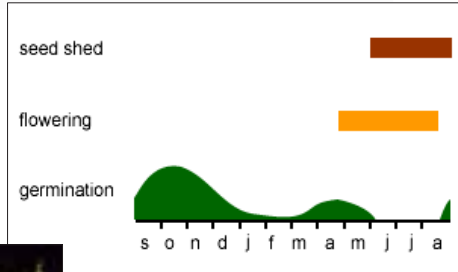
Notes: _____



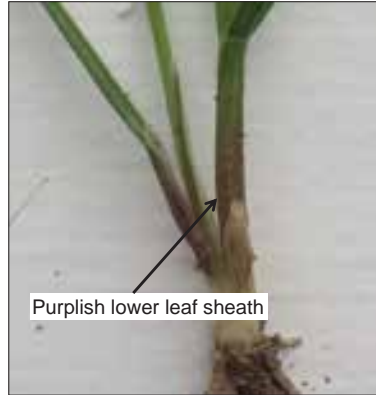
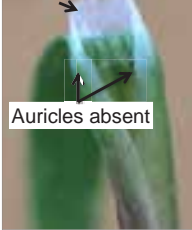
Identification of blackgrass

Blackgrass

- 1 plant/m² = 6 million seeds/ha
- 8-12 plants/m² = 2-5% yield loss
- Confirmed herbicide resistance
- 80% of plants emerge in Autumn
- 70% seed decline per year
- Cannot germinate from depth



Ligule (blunt, finely serrated)



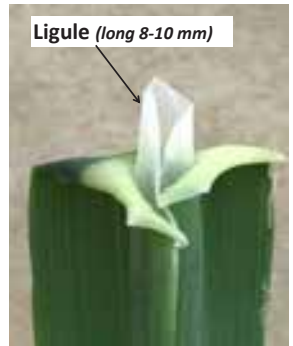
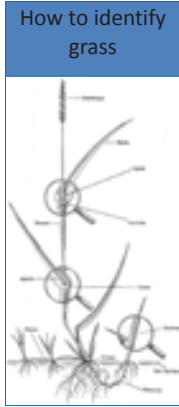
Notes: _____



Identification of lesser canary grass

Lesser Canary Grass

- Becoming increasingly common
- In both winter & spring crops
- No confirmed herbicide resistance
- Spring germinator... but
- Seed persists in the soil



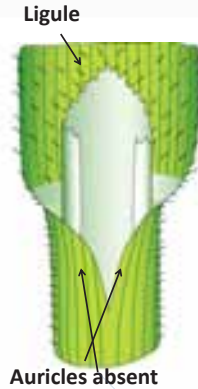
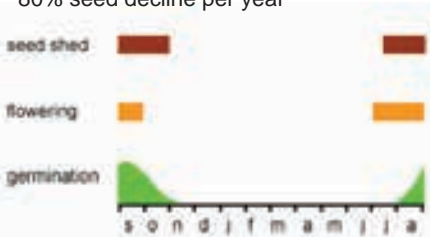
Notes: _____



Identification of sterile brome

Sterile brome

- Can produce >200 seeds per plant
- 5 plants/m² = 5% yield loss
- Suspected herbicide resistance
- Predominately autumn germinating
- 80% seed decline per year



Soft, limp growth



Hairs on leaf surface, margins and sheath



Purplish lower Leaf sheath



Notes: _____



Do you have grass weed problems? Would you like some help?

The project team can help you

- Identify and assess grass weed levels on the farm
- Evaluate why and how management actions drive grass weed pressure on the farm
- Sample grass weeds and test for herbicide resistance
- Provide practical advice to solve grass weed problems
- Capture best existing on-farm management actions and knowledge

Why do some Irish tillage farms with similar systems have

- No weeds?
- Mixed populations?
- Large infestations?
- Resistant weeds?

Our survey will answer these questions

Be part of the project...

Participate in the Grass Weed Survey

Sign the sheet with name and contact details **today** and we will be in contact

or contact the project team using the below information:

Jimmy Staples (project advisor)
Teagasc, Oak Park, Co. Carlow
W: 059-9170227; M: 087-7907758
E: Jimmy.staples@teagasc.ie

Steps to controlling grass weeds



Please note all information gathered will be kept private and confidential unless otherwise stated by the person of interest



Notes: _____



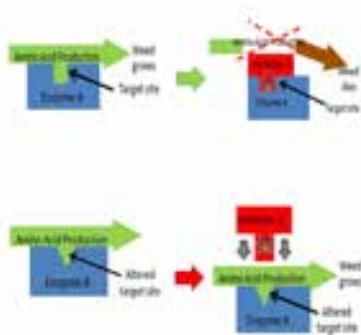
Herbicide resistance

'Herbicide resistance is the ability of a plant to survive and produce seed even after the application of a rate of herbicide that would have normally killed it'

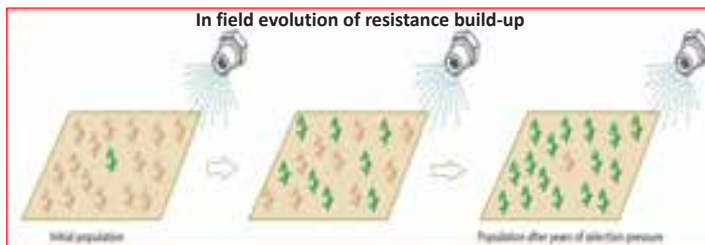
There are 2 main types of resistance:

1. **Target site** – the site where the herbicide should act on the weed is blocked by the plants mutations it has developed
2. **Non-target site (Enhanced metabolism)** Where the number of herbicide molecules reaching the target site is reduced, either due to detoxification of herbicides to non-toxic metabolites (enhanced metabolism), or sequestration to other parts of plant cells

Development of Target Site Resistance (TSR)



In field evolution of resistance build-up



Notes: _____



Integrated strategies for managing grass weeds

The past

The future

Farmer practice



Control options

Rotations	Row widths
Stale seedbeds	Rotational grazing
Cultivations	Allelopathy /Bio fumigation
Drilling dates	Nitrogen timing
Seed rates	Mowing/ Whole cropping
Cover crops	Mechanical weeding
Companion cropping	Alternative approaches
Crop cultivars	Targeted Herbicides
Rogueing	Alternative Herbicide types

Implementation



AHDB & BBRO 2019

Notes:
