

Undersowing Maize Workshop

On 25 January 2022 Catchment Sensitive Farming in partnership with Portsmouth Water held an online workshop on suitable maize management with focus on undersowing maize.

Watch the recording here:

<https://www.cleanwaterpartnership.co.uk/resources>



Presenter 1- Stephen Woodley (S. Woodley Crop Services)

Portsmouth Water's Undersowing Maize Trial

Undersowing maize trial undertaken in 2021 on a commercial mixed farm in East Meon, Hampshire. Undersown maize with grass vs maize bare stubble after harvest.

Full findings will be circulated once available.

Current trial findings:

- Establishment by 6th leaf stage is essential
- High levels of nitrogen left after harvest across all pots- potential nutrient overload
- Undersowing maize with grass has reduced nitrate leaching on average by 58% this season.

If you would like to discuss the trial in more detail, please get in touch with Stephen Woodley at

stephen@swoodleycropservices.co.uk



Presenter 2- Rob Iddeson (Catchment Sensitive Farming), Grass Establishment Technique

Inter row drilling using a disc coulters drill found to be an effective approach for undersowing establishment:

- ✓ Accurate seed placement
- ✓ Good soil seed contact
- ✓ Good moisture retention
- ✓ Improved germination
- ✓ Good clearance
- ✓ Availability

Maize crop up to 6th leaf stage robust enough to cope with the disturbance of inter row drilling

Crabbing on sidling ground can mean up to 30cm offset

Maintaining coulters pressure is challenging when the drill is not coupled to a cultivator

If you would like to discuss establishment techniques in more details please contact Rob at Rob.Iddeson@naturalengland.org.uk



Presenter 3- Anne Blokhuis, South East Water Sustainable Maize Experience

South East Water working on sustainable maize management since 2016. Began undersowing trials 2018/19- successful demonstrations, incentive payments since 2019 and now part of their incentive scheme. Working with local contractors- 3 contractors undertaking the undersowing service.

Key findings:

- Grass acts as a reliable cover crop with maize
- Farmer testimonials very positive- ground more driveable, less run-off
- Found gap of 15cm between undersown mix & maize crop effective
- Most effective & reliable establishment found to be drilling
- Potential concerns
 - **Too dry in summer**- after harvest undersown mix took off
 - **Too wet in summer** – not an issue in their experience if early planning with undersowing
 - **Weeds**- agronomists adapting to the popularity of undersowing and adapt herbicide applications accordingly.
 - **Lower yield**- some crop damage around headlands but does bounce back quickly negligible yield impact
- Advise early maturing varieties of maize to allow flexibility for grass after maize if cannot undersown

If you would like to discuss with Anne's South East Water experience please contact Anne at Anne.Blokhuis@southeastwater.co.uk

Presenter 4- John Morgan, Sustainable Maize Management

John Morgan is an adviser at Creedy Associates Ltd and is the office lead for the Maize Growers Association. He has been working on maize management for over 20+ years. Below are the key messages from John on sustainable maize management.

Key messages:

- **Harvest as early as possible & when soil is dry** – as early as first 2 weeks in September to avoid negative environmental impacts
- **Maize has a high N leachability**- nutrient management is essential!
- **Maize maturity is important**- early maturing varieties allow early harvest
- **Early drilling is advised** - found early drilled maize yielded more than latter drilled maize (7% more dry matter)
- **Match nutrient supply to crop need**- too high nutrient indices need to adjust nutrient application accordingly.
- **Site suitability is essential**- need to risk assess fields for growing maize
- **Post-harvest cover crops work for maize if early harvest** – in case undersowing is not possible

Services available:

- Maize Charter Visit- visit covers advice, risk assessment of field suitability, nutrient management and more.
- MGA Nitrogen Predictor- individual N recommendations & NMP advice

If you would like to discuss the services offers please contact John at John.morgan@creedyassociates.com

Undersowing key messages:

- Establish under-sowing mix at maize 4-6 leaf (6 more optimum)
- Establish cover crops into maize from one week after the last herbicide is applied (June-early July)
- Control weed problem prior to growing maize & do not under-sow fields known to have problems with weed, which may need late herbicide applications
- Cautious using the cover crop for silage as risk of soil contamination & maize contamination with significant quantities of maize stalks.
- Opportunity to graze undersown grass will increase availability of nutrients contained within the cover crop – NMP benefit