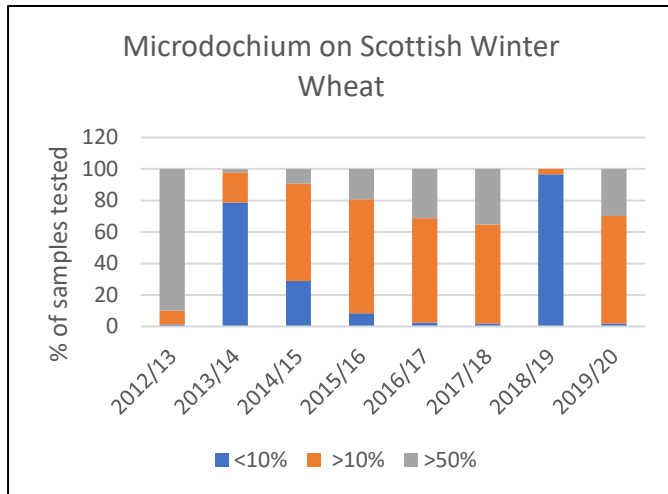


**Treat seed according to need:** managing seed-transmitted disease in an environment of limited chemical choice and changing agricultural practice

Testing your seed lot for seed transmitted diseases, complements the code of practise for plant protection products in Scotland and the use of whole farm Integrated Pest Management strategies (<https://www.gov.scot/policies/agriculture-and-the-environment/pesticides/>). Testing seed allows decisions to be made on whether a chemical seed treatment is required or not. Advisory and regulatory thresholds for disease above which seed treatment is recommended, are provided in the tables below.



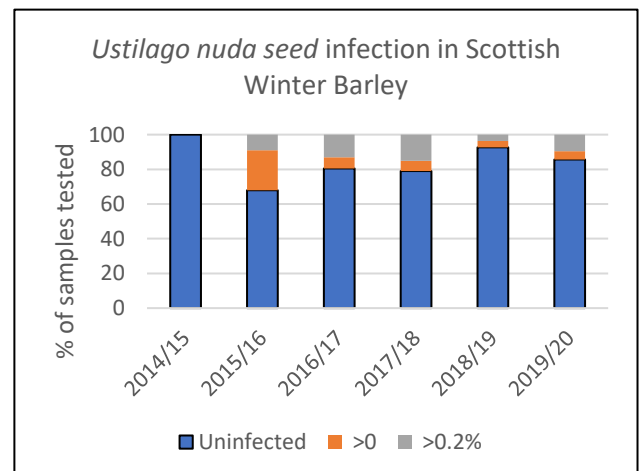
The incidence and infection level of seed-transmitted diseases in Scottish seed lots can vary dramatically from year to year depending on environmental conditions. For example, in 2012 there were extremely high levels of *Microdochium* seedling blight in winter wheat with almost all samples above the recommended seed treatment threshold. This contrasts with 2018 when levels were very low, with more than 89 percent below the 10% recommended level for treatment.

The incidence of Net Blotch (*Pyrenophora teres*) in spring barley increased to 30% in seed harvested in 2019 compared to 21% in 2018. (Data not shown). In 2017/18 there was concern amongst growers regarding high levels of loose smut (*Ustilago nuda*) in

winter barley crops. However, infection on seed from the 2017 harvest did not reflect this concern with levels only slightly greater for infection above 0.2 compared to 2015/16. Fewer samples recorded >0.2% in 2018/19 and 2019/20.

#### Loose smut thresholds for barley and wheat in UK seeds regulations

Category	Maximum % by number	
	HVS level	Min level
Basic seed	0.1	0.5
1 <sup>st</sup> generation certified seed	0.2	0.5
2 <sup>nd</sup> generation certified seed	0.2	0.5



#### Recommended Advisory levels for cereal seed transmitted diseases

Seed borne pathogen	Crop	Max recommended % infection for sowing without seed treatment
<i>Microdochium/Septoria/Fusarium graminearum</i> seedling blights	Wheat	10
<i>Microdochium seedling blight</i>	Oats	10
<i>Microdochium seedling blight</i>	Barley	30
<i>Pyrenophora graminea</i>	Barley	4
<i>Pyrenophora teres</i>	Barley	15

**For further information on these seed transmitted pathogens and other disease testing please contact:**

Official Seed Testing Station for Scotland  
SASA  
Roddinglaw Road  
Edinburgh  
EH12 9FJ

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