

BLACK SCURF

Rhizoctonia is more commonly known to farmers and agronomists alike as black scurf or stem canker, writes Barrie Florendine, national potato specialist for UAP.

As different phases of the same disease, they have a significant effect on yield and quality – issues dear to the hearts of South Eastern growers aiming for pre-pack markets, but all growers could benefit from the new research. While the seed borne phase of the disease is relatively well controlled, more and more growers are finding that the soil borne phase of the disease is affecting them. Typically, tubers grown for the pre-pack market may have surface sclerotia (black scurf), cracking, and possible distortion that would lead to a loss in value. However, new trials work suggests that even growers of processing varieties would benefit from reducing the impact of the soil borne disease phase. More even tuberisation, consistent dry matter levels and generally better fry colours all come as a result of controlling rhizoc.

A vital first step to controlling the disease would be to check the seed on arrival at farm. Simply take fifty or so tubers and wash them gently in clean water. Any black scurf should be easily found on the tuber surface. If the tubers appear clean, it is a good start but not evidence of the health of the seed stock; to get that, you would need to carry out an eye-plug test. If a low level of disease is present, then the easiest remedy would be to use a tuber dust such as penicuron or flutolanil (Monceren DS or Rhino DS). The dust can either be applied using an applicator on the planter or by manually dusting the product over the seed box and hopper. This basic method is remarkably affective although the applicator is a lot more user-friendly. When using penicuron at reduced rates, the response tends to be a little stronger than that of flutolanil. However, at full rate the rhino has often outperformed Monceren in protecting tubers from black scurf infections. Sadly, the new tuber treatment based on fludioxinil, which is also active on common scab, will not become available this year – growers will

New angles on rhizoctonia (Black Scurf) control

have to wait until 2011 before the fungicide can be used.

Soil borne infections are a little more difficult to treat effectively because they need a different approach and often specialist equipment on the planter. Often, particularly on rented land, it is not known whether there has been a history of rhizoc in the field.



Black scurf

Patches of poor or slightly stunted crop can go un-noticed, unless the problem is exacerbated by poor growing conditions after planting. The fungus prefers cool and dry conditions that slow the early stem growth, which allows the disease to develop on new stem tissue. Once the crop has emerged, the effect lessens but in extreme situations where stolons are severely pruned, 'aerial tubers' are formed in the lower stem axial buds. Incidentally, there is a strong correlation between the incidence of stem canker damage and the presence of both potato cyst nematode and free living nematode.

By using azoxystrobin (Amistar) in-furrow, the disease inoculum levels crash very quickly. It's then a race over time to get the crop to harvest before the disease re-establishes itself. Where black dot is also a problem, the dose of azoxystrobin should

reflect this. Normally 3.0 l/ha is sprayed in the furrow at planting for pre-pack varieties, particularly ones at risk from black dot. However, for processing crops a reduced dose of 1.5 to 2.0 l/ha in-furrow has proved to be very effective particularly where the soils are a "little tired". In the United States doses as low as 0.5 l/ha are applied, but soil conditions and cropping varies hugely in comparison to UK conditions.

Richard Beaumont, also of UAP and a Kent based adviser, said: "I agree with Barrie that the first step to reducing the risk of rhizoctonia is to ensure that the potato seed is purchased free of disease. If this can be done, it is one less worry for growers of a crop with enough growing challenges without the added headache of buying into problems. To avoid any problem, it is important to purchase seed from a reliable source with a known history of supplying clean seed. Why spend £300 per tonne on questionable seed, leading to a potential loss in yield and quality from stem damage, uneven tuberisation and hassle from your stressed packer? To this end, it is important to have a good relationship with your buyer as he has a vested interest in ensuring you receive quality seed. If you do purchase seed that is known to be infected with rhizoctonia you have the option of chemical control but these products do not guarantee 100% control, only a reduction in the severity of the disease.

"Soil borne infections of rhizoctonia are much more of a challenge to potato growers. In-furrow applications of azoxystrobin can help particularly at the higher rate. For pre-pack potato growers with close rotations this is becoming a standard input with its increased reduction of black dot. In the long-term though, committed potato growers will need to look at lengthening their rotations to one in six plus years to minimise both soil diseases and pest problems. For the professional potato grower over the next few years, a life of ease will be an even more difficult pursuit."



Barrie Florendine of UAP