

Advice for use of Roundup®

Spraying Roundup® products onto dense populations of perennial weeds or old pasture and establishing with direct drilling or minimal cultivation, may risk poor grass establishment unless thorough cultivation is carried out which disperses or buries the decaying organic matter. Each situation needs to be specifically assessed to determine the type of cultivation required or indeed, if waiting until the spring is a preferable approach. Consolidation of loose soil, adequate fertiliser to aid breakdown, lime to correct pH imbalance and appropriate measures against slugs and pests are also advised to achieve optimum results.

Notes on the effect of debris on germinating grass seeds in previously sprayed areas.



Roundup® is a registered trademark of the Bayer Group. Roundup® contains glyphosate.

Use plant protection products safely. Always read the label and product information before use. Pay attention to the risk indications and follow the safety precautions on the label.

For further details consult the website

Web: <https://cropscience.bayer.co.uk/our-products/amenity>

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Bayer are committed to minimising the environmental impact of herbicide treatments as well as maximising their effect on killing target weeds. The effectiveness of Roundup® herbicide, and its favourable environmental characteristics have combined to make it one of the most widely used and trusted herbicides in the world.

When large amounts of debris break down in the soil, especially in wet conditions, organic acids including volatile fatty acids and aromatics like phenols, are released. The level of organic acid produced as well as the toxicity to germinating seeds increases as the environment becomes increasingly starved of oxygen to become anaerobic. In the same way, large amounts of decaying foliage in aquatic situations can lead to de-oxygenation of the water and fish death.

This phenomenon is often seen in agricultural situations for example, where large amounts of straw or chaff are left in a swath behind the combine. Similarly, this can also occur in Amenity situations where grass seed is applied to rough pastures or weedy overgrown lawn and garden areas too. Germination and emergence of any grass seeds sown can be visibly poorer in the any thicker vegetative swath as seeds germinate from the anaerobic layer. This is minimised by removal of older vegetation or thorough cultivation to disperse or bury the debris which dilutes the concentration to a non-phytotoxic level before sowing new grass seed. The toxic effect of these breakdown products on seeds varies but generally large seeds will suffer less than small seeds, making grass the most susceptible.

Spraying foliage with herbicides can exacerbate the problem as the foliage all dies back at the same time. Where large amounts of weed material with a mass of roots, stolons or underground rhizomes, for example Couch, is sprayed with glyphosate the resulting anaerobic layer can potentially affect the establishment of new sown grass or the following crop. There is also evidence

that volatile fatty acids, especially acetic acid, are produced from the decomposition of some species which tend to dominate in old pasture such as Creeping Bent and Meadow Fox-tail, and at far higher levels than those produced by decomposing Rye-grass. There is no direct effect from the glyphosate, but because it is translocated to all parts of the plant, the resulting death of all the plant material at the same time can lead to anaerobic conditions. Cultivation will minimise such effects, so direct drilling, directly applying or sowing new grass seed and minimal cultivations into large amounts of trash present the highest risk.

Direct drilling grass seed into old pastures presents the highest risk which is why Bayer do not recommend Roundup® application before direct drilling into long leys in the autumn where there is a surface mat. Label extract: 'ONLY direct drill grass and clover EITHER into 1-2 year leys without mat 5+ days after spraying OR long leys with some mat, in the spring following autumn application'

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