BVR Magnesium300

Contains 300 g/l (21% w/w) total magnesium as magnesium hydroxide

BVR Magnesium300 Technical User Guide

- Magnesium is an essential component of chlorophyll and hence photosynthesis.
- Magnesium is involved in a number of enzyme-driven plant physiological processes including phosphorylation, assimilation of carbon dioxide and protein synthesis.
- Deficiency can lead to serious yield and quality penalties

Magnesium deficiency

Moderate to severe magnesium deficiency in arable crops usually occurs on:

- Organic, peaty and marshland soils
- Sandy soils (sand, loamy sand)
- Compacted soils
- Crops suffering root diseases or pest attack

In general, only a small proportion of the total soil magnesium is available for plant uptake. This is dictated by the level of exchangeable magnesium held on soil particles. There is very little release of magnesium from soil organic matter. An absolute shortage of soil magnesium is most likely to be found on sandy soils and where the magnesium is subject to high leaching loss.

Soil compaction and surface capping, root damage due to pest or disease attack e.g. cereal cyst eelworm or take-all, may induce magnesium deficiency due to restricted root development and consequently reduced magnesium uptake.

Symptoms of magnesium deficiency

Magnesium deficiency can be identified through leaf chlorosis. This is due to the vital role magnesium plays in the development of chlorophyll. Symptoms initially appear in the older leaves. In oats, dark-green spots show as a regular pattern between the veins on a pale yellow/green background, producing a 'beading' effect. This is best seen when the leaf blade is held up to the light. When the deficiency is severe, irregular whitish necrotic strips develop between the veins. This 'beading' effect is less pronounced in wheat and is difficult to detect at all in barley. The tips and blades of barley leaves become yellow or orange and in the most severe cases the older leaves wither. Care needs to be taken not to confuse the physiological chlorotic 'beading' common in certain varieties of wheat with magnesium deficiency.

Barclay CROP PROTECTION

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Magnesium deficiency (L – R) in wheat, barley, oilseed rape and potato

Yield response to BVR Magnesium300 application

There is very little hard evidence of a positive yield effect from foliar magnesium applications during the early cereal crop development stages. However, the rapid greening effect promoting chlorophyll production leads to greater confidence of a strong performance from a healthy crop.

Foliar applications of magnesium between ear emergence and end of flowering (GS59-69) are common treatments in cereals. The aim of these applications is to improve grain weight and consequently yield. This can be effective even on soils with a high magnesium status. This supplementary input of magnesium during the grain filling period reduces the amount of magnesium translocated away from the flag leaf to the grain. This maintains and prolonging photosynthetic activity allowing the crop to continue to build yield. This is particularly important in dry conditions when replacement magnesium uptake from the soil is restricted.

Treatment with BVR Magnesium300

Crop	Rates and Timings
Apples and Pears	Apply 4l/ha after petal fall. In severe deficiency situations apply at pink bud stage.
Blackcurrant	Apply 4l/ha at full flower and repeat at fruit set
Blueberries	Apply 4 l/ha 10 after the end of petal fall.
Bulb Crops - Field Grown (e.g. Daffodils, Tulips)	Apply 4/ha from when the crop is 10 - 15cm high and repeat at 7 – 10 day intervals. Do not apply to crops grown under plastic or glass.
Broccoli, Brussels Sprout, Calabrese, Cauliflower	Apply 2 – 4 l/ha at the 4 – 6 leaf stage. In the event of moderate / severe deficiency treatment should be repeated after 10-14 days
Carrots	Apply 2 – 4 l/ha when the crop is 15cm tall. In the event of moderate / severe deficiency treatment should be repeated at 10-14 day intervals. The last application should be made one month prior to harvest.

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Cereals	Apply 2 - 4 l/ha at the 4 – 6 leaf stage (GS 14 – 16) followed by a second application from 1st node detectable to flag leaf just visible (GS 31- 37). To aid improvement in grain weight and to prolong photosynthesis apply 2 l/ha at flag leaf ligule just visible to end of anthesis (GS39 – 69)
Cherries and Plums	Apply 4l/ha at fruit set. Where there is a severe deficiency repeat after 10 – 14 days
Conifers	Apply 2 – 4l/ha from the start of new leaf production. Repeat in the early autumn.
Fodder beet, Kale, Turnip and Swede	Apply 2 – 4 l/ha at 4 – 6 leaf stage. In the event of moderate / severe deficiency treatment should be repeated after 10-14 days.
Grapevines	Apply 4 l/ha at flower bud visible stage, flower buds separated and fruit set.
Grassland	
Amenity	Apply in accordance with tissue analysis. Apply 5 – 10l/ha once new grown starts in the spring repeating at 10 – 14 day intervals.
Grazing	Apply 5 – 10l/ha, 10 – 14 days prior to grazing.
Growth	Apply 5 – 10 l/ha as soon as growth starts in the spring. In the event of moderate / severe deficiency treatment should be repeated after 10-14 days.
Leeks	Apply 2 – 4 l/ha 2 weeks after transplanting. In the event of moderate / severe deficiency treatment should be repeated after 10-14 days.
Lettuce (Field Grown)	Apply 2 – 4 l/ha 2 weeks after transplanting. In the event of moderate / severe deficiency treatment should be repeated after 10-14 days
Maize	Apply 4 l/ha at 4 – 6 leaf stage.
Oilseed rape	Apply 4 l/ha from green bud stage. In the case of severe deficiency treatment is recommended in at the 4-6 leaves stage.
Peas and Beans	Apply 2 – 4 l/ha when the crop is 15cm high. In the event of moderate / severe deficiency treatment should be repeated after 10-14 days.
Strawberries	Apply 4 l/ha at white bud stage
Sugar beet	Apply 4 l / ha at 4-6 leaf stage. Where there is a severe deficiency repeat after 10 – 14 days
Potatoes	Apply 4 l/ha from 1 week after 100% emergence. Where there is a severe deficiency repeat after 10 – 14 days
Vegetables (Field Grown)	Apply 4 l/ha at 4 – 6 leaf stage. Where there is a severe deficiency repeat after 10 – 14 days

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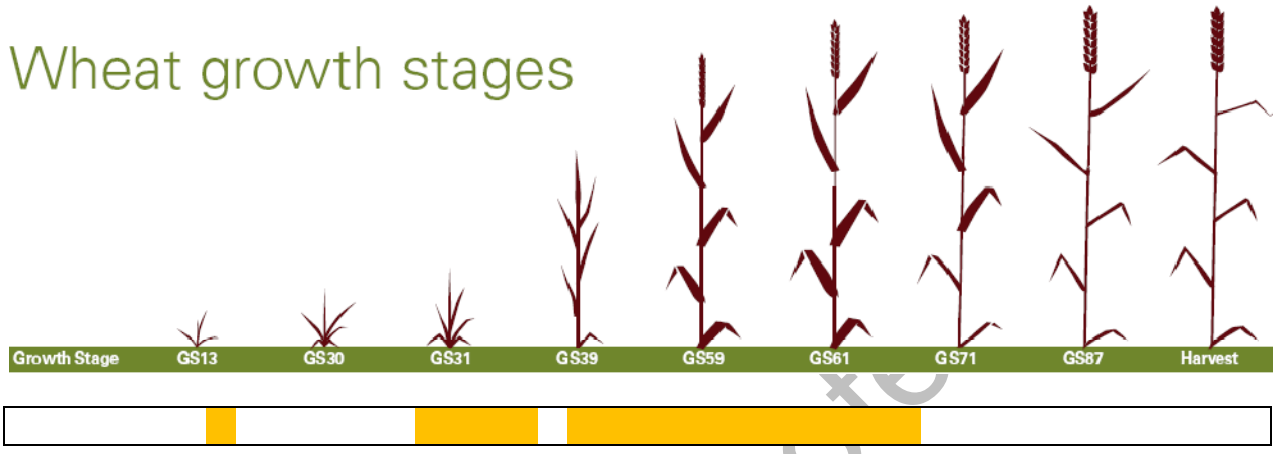
BVR Magnesium300 Treatment Timing in Winter Cereals



BVR Magnesium300 application timing

Special Notes

- A crop's nutrient status can only be determined accurately by tissue analysis. Barclay Crop Protection recommends that tissue analysis results are used whenever possible to optimise applications
- Only to be used where there is a recognised need. Do not exceed the appropriate application rates.
- BVR Magnesium300 is physically and chemically compatible with a wide range of agrochemical products. The BVR Magnesium300 tank mix guide is available from your distributor or from Barclay Crop Protection.
- BVR Magnesium300 is incompatible with phenoxy herbicides e.g. mecoprop-p, MCPA, 2,4-D, bentazone and dicamba, and mixtures containing such herbicides, and some formulations of flurtemone.

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