

Best practice for chemical weed control on hard surfaces

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European Glyphosate Environmental Information Source

Important Notes to users:

This document is part of a toolbox which provides independent information on the sustainable use of glyphosate. It cannot however be definitive and users must ensure that they assess local factors and particularly take account of any national or regional legislative requirements. At the end of the document reference sources used in its preparation and links to other relevant documents are provided.

Summary

Many types of hard surfaces will require some form of weed control. In certain high risk situations consideration may be given to non-chemical approaches but where chemical weed control is necessary there are a number of important best practice measures that must be implemented to avoid water pollution. The following measures are based on practical experience in a number of EU member states. However local legislation, as well as contractual or other requirements, may vary and must be taken into account by hard surface managers, spray operators and any other contractors.

Detailed information

Introduction

Many types of hard surfaces will require some form of weed control. In certain high risk situations consideration may be given to non-chemical approaches but where chemical weed control is necessary there are a number of important best practice measures that must be implemented to avoid water pollution. This is particularly important when controlling weeds on drained areas (e.g. slabs, bricks, block stones) that promote fast run off of rain water to surface water (see illustration below). Glyphosate is one of the most widely used herbicides on hard surfaces and thus adoption of best practice because is particularly relevant for this herbicide.



Best practice measures

The following best practice measures are based on practical experience in a number of EU member states. However local legislation, as well as contractual or other requirements, may vary and must be taken into account by hard surface managers, spray operators and other contractors.

1 Contract specification

- It is common for hard surface managers to contract out the spraying operation. All contractors used should meet high professional standards and employ properly trained operators.
- In addition it is important that the contract wording allows some flexibility in relation to issues such as treating only when weeds are present, not on predetermined fixed dates and not specifying absolute 100% weed control.

2 Herbicide application equipment

- Avoid any unnecessary use of herbicides. Wherever possible use selective spray applicators.
- Spray equipment must be checked for leaks and correct operation at appropriate regular intervals.
- Carefully calibrate all spray equipment to ensure accurate delivery.
- Use nozzles that deliver medium to coarse droplets in order to minimise wind drift.
- Where possible use a shield around the nozzles to reduce droplet drift.
- When using a weed wiper (where the herbicide is applied directly to the weeds) or other precision application technology for herbicides, apply dosage levels as given in the specification of the manufacturer. Apply a 6 h dry period between application and any expected rain fall.

3. Filling and cleaning of equipment

- Only fill spray tanks in places where there is no risk of runoff. When using local surface water to fill tanks, use equipment that prevents any risk of herbicide entering the water through leaks, drips, back siphonage or other means.
- Collect empty containers and any water used for rinsing of equipment. Dispose off safely and in compliance with legal requirements.
- Any spray liquid that is spilled during cleaning or washing of equipment must be contained and removed in order to avoid water pollution. Dealing with any such spillage must take account of any local legal requirements.

4. Application

- Only use pesticides authorised for use on hard surfaces. Make sure the labels are carefully checked and all requirements followed.
- Do not spray on weeds which are wet from rain or dew. The spray solution must not drip or runoff the weeds due to excessive moisture on the leaves.
- All operators should have proper training on herbicide use and application.
- Only apply herbicides at places and at times permitted by law and any contractual requirements. Herbicides should not be sprayed directly onto water.
- If available, maps should be consulted and marked with particular high risk areas within which spraying should not occur. Typically this should include street drains and any areas within a distance of 1 m from the edge of surface water. Additionally attention should be given to designated special protection areas such as groundwater protection zones and drinking water catchments.
- Change weed management to brushing or other non chemical options in the sensitive areas. Do not spray shortly before and after sweeping.
- Adjust driving speed during spraying operations to avoid excess of spray solution. Maximum speed in sensitive areas such as near drains and water surfaces should be 10 km per hour.

5. Dosing of glyphosate

- Adjust dose to weed occurrence and always closely follow label requirements.
- Optimal conditions for glyphosate use are generally when weeds are relatively small, in good growing conditions, and there is low wind speed. Ideally temperature should be in the range 15-22 °C; and relative humidity > 70 %.
- Depending on the weed species in the case of perennial weeds better control is often obtained by treating mature weeds (up to flowering). Apply glyphosate only in the period when the transport of photosynthesis products inside the plants is towards the roots.
- Refer to label recommendations.
- In some situations adding other herbicides to glyphosate may have weed control benefits but may also be antagonistic. Only use glyphosate mixed with other herbicides where there is a clear reason to do so and after taking expert advice. Contractors should agree any such situations with the hard surface manager in advance and report any changes.
- Soften hard water used for spraying when harder than 12 ° D (approx. 2 mMol Ca+Mg) with the same amount of ammonium sulphate.

6. Weather conditions

- Do not spray herbicides if the weather forecast indicates a likelihood of rain within the next 24 hours. Comply with any specific additional weather criteria in place for your country.
- Under a period of sustained wet weather if chemical weed control is not possible without significant risk of water pollution then other non-chemical means of weed control should be considered.

7. Record keeping

- Keep detailed written notes in a registration log on a daily basis. Depending on local requirements this could include, which methods, when, where, working hours, weather, amount and product used per working area.
- Note any unusual events or deviations from the desired operational method.
- Provide the reports to the relevant authorities as soon as practicable after the spray operation.

Reference for further detailed information:

1. See Davies et al., 2005 ([Click here](#))

See also:

- Weed control on roads and pavements: Costs and environmental impact of different options
- Best practice for general handling of herbicides to minimise risks of point source pollution

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