



Hard surfaces and weed infestations

J.A.R. Davies, C. Kempenaar & L.A.P. Lotz

© 2005 Wageningen, Plant Research International B.V.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of Plant Research International B.V.

Plant Research International B.V.

Address : Droevendaalsesteeg 1, Wageningen, The Netherlands
: P.O. Box 16, 6700 AA Wageningen, The Netherlands
Tel. : +31 317 47 70 00
Fax : +31 317 41 80 94
E-mail : info.plant@wur.nl
Internet : www.plant.wur.nl

Table of contents

	page
1. Introduction	1
2. Hard surfaces	2
3. Weed situations and DOB standards	14

1. Introduction

This note presents pictures of weeds on hard surfaces, which can be used in training and instruction programmes on weed management in urban areas.

The pictures are grouped around type of hard surface and the degree of weed contamination in different situations.

Chapter 2 presents pictures/images of

- different type of hard surfaces, differentiated after shape and material
- hard surfaces used at experimental sites and
- weeds around obstacles that hamper the usual weed control and miscellaneous situations.

Chapter 3 presents pictures of weeds, classified according to the standard DOB weed infestation scale, for different types of hard surfaces. The DOB standard scale of weed infestations has been developed in the project *Rational weed management on hard surfaces*.

2. Hard surfaces

Chapter 2 presents pictures of different type of hard surfaces occurring in the Netherlands:

- block and bricks generally used for sidewalks and roads
- asphalt surfaces for roads
- semi hard surfaces with e.g. block with open structure.

Subsequently, pictures are presented of some hard surfaces used in experimental situations near the institute Plant Research International. Some of these types are applied on a small scale in varied situations in villages and towns in the Netherlands.

At the end, pictures are presented of obstacles that hamper usual weed management, gutters, transitions in hard surfaces and other specific situations.



Slabs on sidewalk



Slabs on sidewalk with kerbstones on edges.
Brick stones at the right



Brick stones



Brick stones with filled joints



Concrete blocks on traffic island



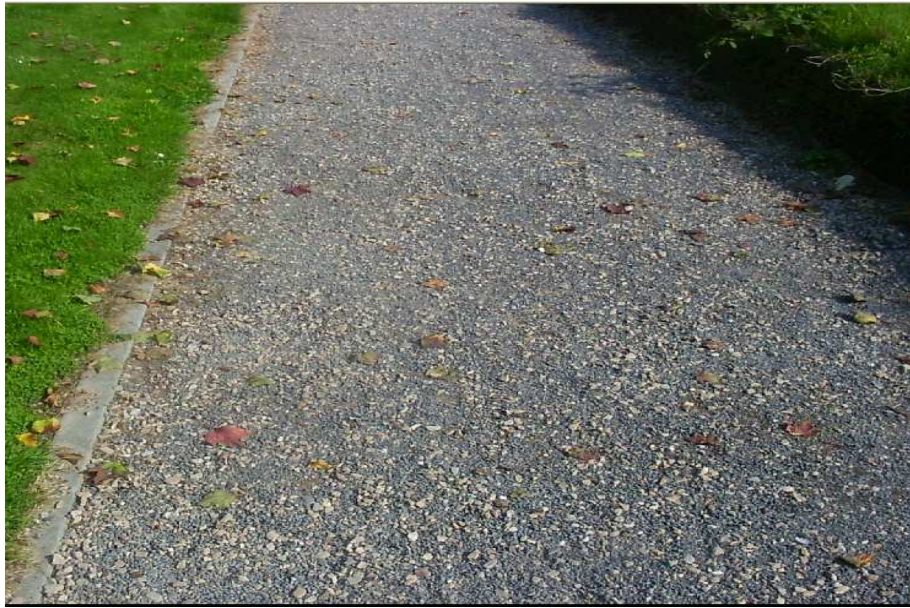
Asphalt



Pebble stones



Gravel



Fine dark pebble stones



Gravel



Hard standing next to main road



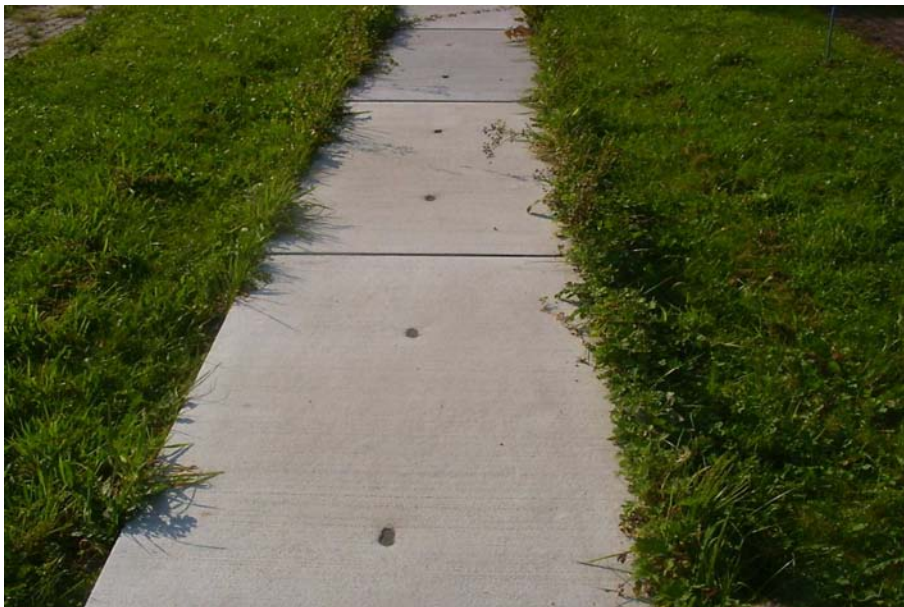
Large concrete blocks with bloc print
(experimental site)



Concrete blocks
(experimental site)



Concrete blocks with open structure (experimental site)



Large concrete blocks (experimental site)



Weeds in gutter and near obstacles



Weeds near trees and near obstacles



Quay along canal



Gully pot in road

3. Weed situations and DOB standards

Chapter 3 presents pictures of weeds, classified according the DOB standard scale, for different types of hard surfaces weeds. The DOB standard scale of weed infestation has been developed in the project *Rational weed management on hard surfaces*. It was adapted from several different scales (Alterra, CROW, Ecoconsult)

For each class of weed infestation pictures are presented showing an overview and the weed infestation in more detail.

Evaluation of weed infestation according DOB standard scale:

Class	Description	Weed situation
1	None	No weeds
2	Very minor	Some small weeds in joints or limited number shooting weeds, no clumps of plants
3	Minor	Joints covered for about 25% with weeds, some highly shooting weeds and no clumps of plants
4	Moderate	Joints covered for 25 - 50% with weeds of which a great part is shooting, some clumps of plants, view annoys or irritates public
5	Heavy	More than 50% of the joints are covered, clumps of plants, hardly passable, risk to slip or trip
6	Very heavy	Hard surface is hardly visible, situation out of control, inaccessible

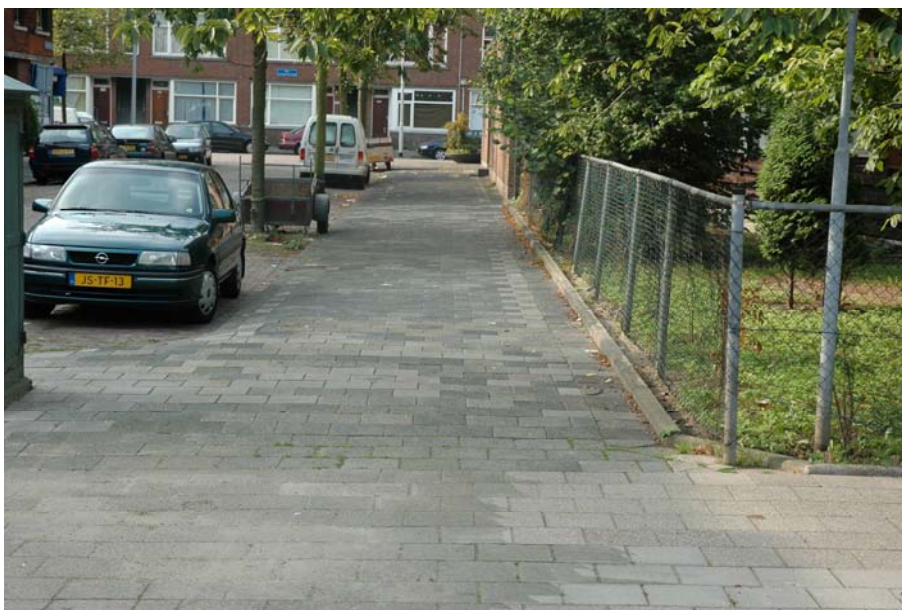
The scale is to be used for objectively evaluation of weed infestation of a unit of hard surface. Observations are done on 10 to 20 random positions per ha of hard surface.

The scale is not applicable for semi-hard surfaces since there are no joints. For these surfaces the qualitative scale is based on a weed soli coverage.

Class	Description	Weed situation on slabs
1	None	No weeds



Class	Description	Weed situation on slabs
2	Very minor	Some small weeds in joints or limited number shooting weeds, no clumps of plants



Class	Description	Weed situation on slabs
2	Very minor	Some small weeds in joints or limited number shooting weeds, no clumps of plants



Class	Description	Weed situation on slabs
3	Minor	Joints covered for about 25% with weeds, some highly shooting weeds and no clumps of plants



Class	Description	Weed situation on slabs
3	Minor	Joints covered for about 25% with weeds, some highly shooting weeds and no clumps of plants



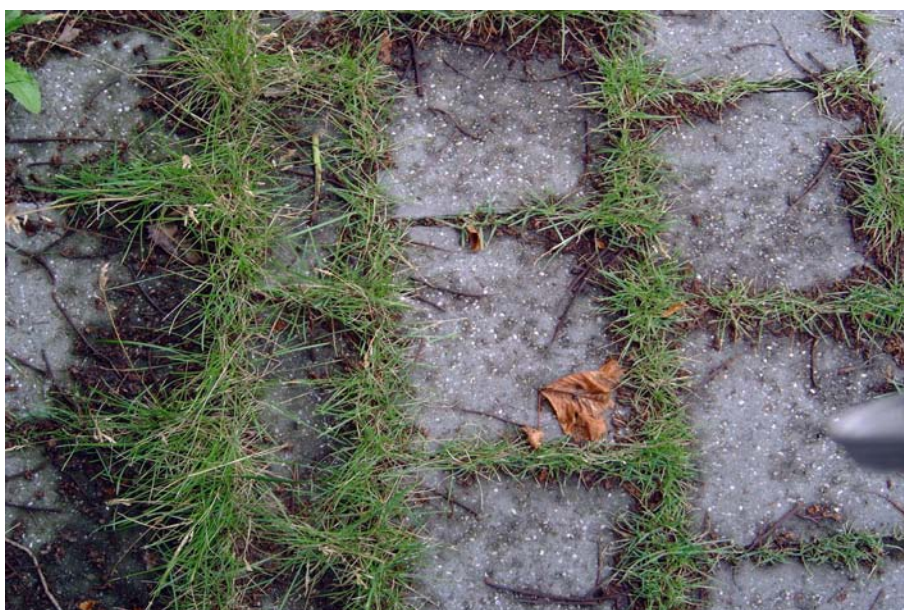
Class	Description	Weed situation on slabs
4	Moderate	Joints covered for 25 - 50% with weeds of which a great part is shooting, some clumps of plants, view annoys or irritates public



Class	Description	Weed situation on slabs
4	Moderate	Joints covered for 25 - 50% with weeds of which a great part is shooting, some clumps of plants, view annoys or irritates public



Class	Description	Weed situation on slabs
5	Heavy	More than 50% of the joints are covered, clumps of plants, hardly passable, risk to slip or trip



Class	Description	Weed situation on slabs
5	Heavy	More than 50% of the joints are covered, clumps of plants, hardly passable, risk to slip or trip



Class	Description	Weed situation on slabs
6	Very heavy	Hard surface is hardly visible, situation out of control, inaccessible



Class	Description	Weed situation on slabs
6	Very heavy	Hard surface is hardly visible, situation out of control, inaccessible



Class	Description	Weed situation on slabs
6	Very heavy	Hard surface is hardly visible, situation out of control, inaccessible



Class	Description	Weed situation on bricks
1	None	No weeds



Class	Description	Weed situation on bricks
1	None	No weeds



Class	Description	Weedsituation on bricks
2	Very minor	Some small weeds in joints or limited number shooting weeds, no clumps of plants



Class	Description	Weedsituation on bricks
2	Very minor	Some small weeds in joints or limited number shooting weeds, no clumps of plants



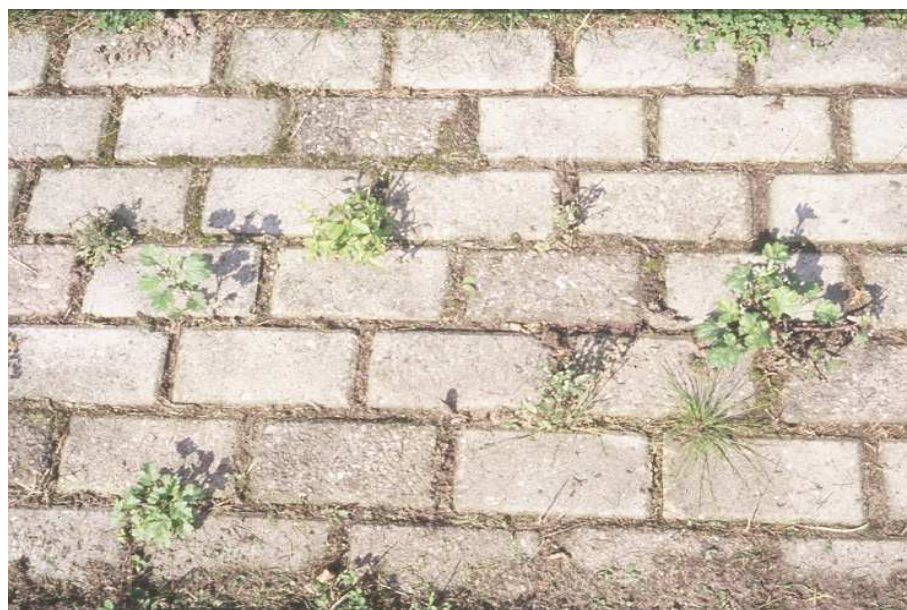
Class	Description	Weed situation on bricks
3	Minor	Joints covered for about 25% with weeds, some highly shooting weeds and no clumps of plants



Class	Description	Weed situation on bricks
4	Moderate	Joints covered for 25 - 50% with weeds of which a great part is shooting, and some clumps of plants, view annoys or irritates public



Class	Description	Weed situation on bricks
4	Moderate	Joints covered for 25 - 50% with weeds of which a great part is shooting, and some clumps of plants, view annoys or irritates public



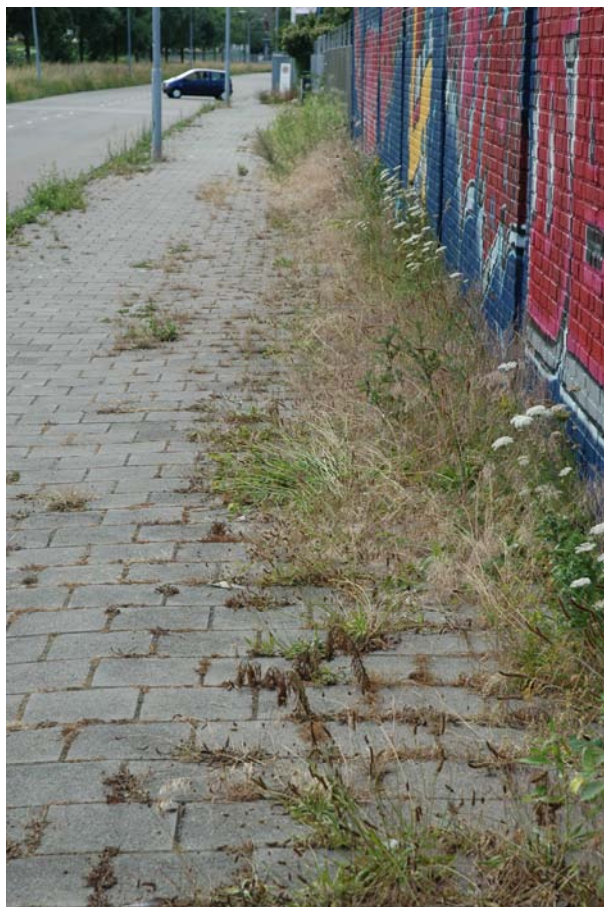
Class	Description	Weed situation on bricks
5	Heavy	More than 50% of the joints are covered, clumps of plants, hardly passable, risk to slip or trip



Class	Description	Weed situation on bricks
5	Heavy	More than 50% of the joints are covered, clumps of plants, hardly passable, risk to slip or trip



Class	Description	Weed situation on bricks
6	Very heavy	Hard surface is hardly visible, situation out of control, inaccessible



Semi-hard surface	Weed situation
pebble stones	No weeds, no soil cover



Semi-hard surface	Weed situation
gravel	Minor weed infestation, soil cover < 5%, very limited number of shooting weeds



Semi-hard surface	Weed situation
gravel	Moderate weed infestation, soil cover 5 - 25 %, limited number of shooting weeds/clumps



Semi-hard surface	Weed situation
pebble stones	Moderate weed infestation, soil cover 5 - 25 %, limited number of shooting weeds/clumps

