

# Herbicides



## Why?

**Competition for water, nutrients and light, risk of physical damage.**

## Principles for weed control

- **Use the core decision chain**
- **Identify the problem**
- **Consider the control options**
- **If remedial action is required, adopt non chemical methods if possible**
- **If using chemicals, adopt the least harmful, effective option**

## Why?

Competition for water, nutrients and light, risk of physical damage.

## Principles for

- Use the control options available
- Identify the weed species and their life cycle
- Consider the control options
- If remedial action is required, adopt non chemical methods if possible
- If using chemicals, adopt the least harmful, effective option

**TIMING!**

Pre-emptive strike  
Maximum effect

## Why?

Competition for water, nutrients and light, risk of physical damage.

## Principles for

- Use the correct chemical
- Identify the weed
- Consider the control options
- If remedial action is required, adopt non chemical methods if possible
- If using chemicals, adopt the least harmful, effective option

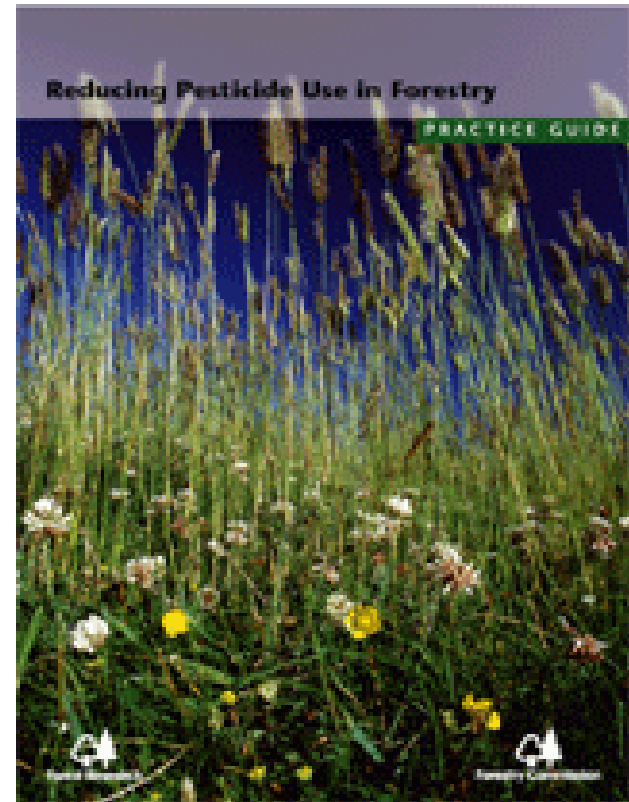
**TARGET!**

Right chemical, right place,  
right amount.

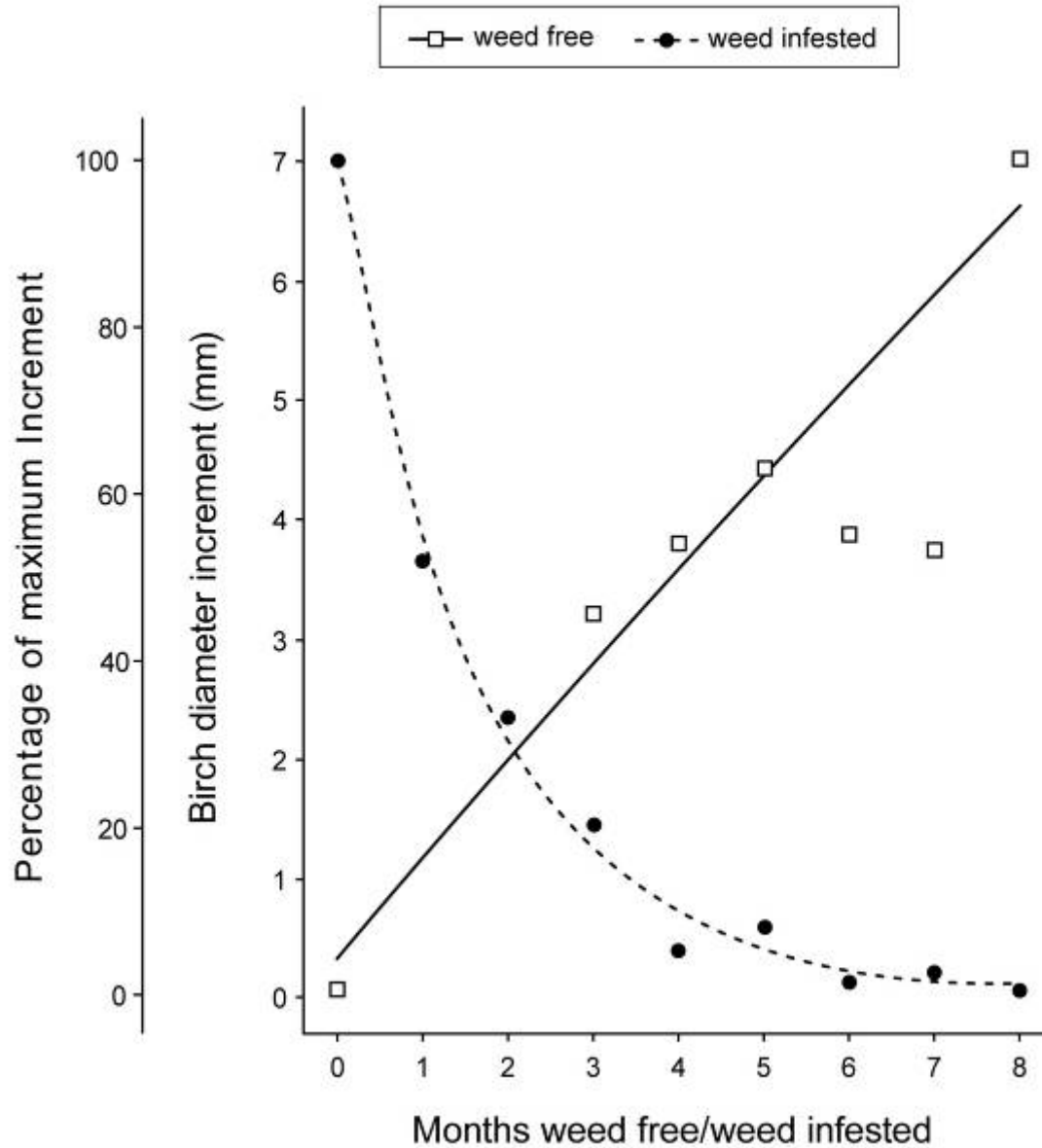
Full Guidance contained in Practice Guide:

*“Reducing Pesticide Use  
in Forestry”* - FC, 2004

£16 to buy or free PDF download at:  
[www.forestry.gov.uk/publications](http://www.forestry.gov.uk/publications)







**Chemicals currently OK to use on FSC certified estate (i.e. Forestry approval, and not on FSC 'highly hazardous' list, or if on list, derogation granted).**

<b>Active Ingredient</b>	<b>Product Name (s)</b>	<b>Typical Use</b>	<b>FSC 'Highly Hazardous'</b>	<b>Notes</b>
Asulam	Asulox	Bracken	No	
Clopyralid	Dow Shield	Thistles	No	
Cycloxdim	Laser Stratos	Grasses	No	
Dichlobenil	Casoron G	Broad spectrum	No	Approvals revoked March 2010.
Glufosinate ammonium	Challenge Harvest	Broad spectrum	No	
Glyphosate	Round Up etc..	Broad spectrum	No	
Metamitron	Goltix	Mixed residual	No	Mainly of use only for farm woodlands.
Metazachlor	Butisan S Sultan 50	Mixed residual	No	Mainly of use only for farm woodlands.
Napropamide	Devrinol	Mixed residual	No	Mainly of use only for farm woodlands. Approval revoked May 7th 2010
Triclopyr	Garlon 4 Timbrel	Woody	No	



**Chemical is legal and safe (i.e. Forestry or farm forestry approval) if used according to the product label, but cannot be used on FSC certified estates.**

<b>Active Ingredient</b>	<b>Product Name</b>	<b>Typical Use</b>	<b>FSC 'Highly Hazardous'</b>	<b>Notes</b>
<b>Amitrole</b>	<b>Weedazol</b>	<b>SRC Broad spectrum</b>	<b>Yes</b>	<b>No derogation applied for</b>
<b>2,4-D</b>	<b>Broadsword Broadshot Greengard</b>	<b>Herbaceous</b>	<b>Yes</b>	<b>No derogation applied for</b>
<b>Dicamba</b>	<b>Broadsword Broadshot Greengard</b>	<b>Herbaceous</b>	<b>Yes</b>	<b>No derogation applied for</b>
<b>Fluazifop</b>	<b>Fusilade Max</b>	<b>Grasses</b>	<b>Yes</b>	
<b>Isoxaben</b>	<b>Flexidor 125 Gallery</b>	<b>Herbaceous residual</b>	<b>Yes</b>	<b>No derogation applied for</b>
<b>Pendimethalin</b>	<b>Stomp 400SC</b>	<b>Mixed residual</b>	<b>Yes</b>	<b>No derogation applied for</b>
<b>Propaquizafop</b>	<b>Falcon</b>	<b>Grasses</b>	<b>Yes</b>	<b>No derogation applied for</b>
<b>Propyzamide</b>	<b>Kerb</b>	<b>Foliar and residual grasses</b>	<b>Yes</b>	<b>Application for FSC derogation rejected, Appeal in Progress</b>

**Chemical is no longer legal to use in forest or farm forestry crops.**

<b>Active Ingredient</b>	<b>Notes</b>
<b>Ammonium sulphamate</b>	<b>Approvals revoked, May 2008.</b>
<b>Atrazine</b>	
<b>Cyanazine</b>	
<b>Diquat</b>	
<b>Diuron</b>	<b>Approvals revoked, August 2008</b>
<b>Imazapyr</b>	
<b>Paraquat</b>	<b>Approvals revoked, July 2008.</b>
<b>Simazine</b>	

**Chemicals currently OK to use on FSC certified estate (i.e. Forestry approval, and not on FSC 'highly hazardous' list, or if on list, derogation granted).**

<b>Active Ingredient</b>	<b>Product Name</b>	<b>FSC 'Highly Hazardous'</b>	<b>Notes</b>
<b>Alpha cypermethrin</b>	<b>Contest</b>	<b>Yes</b>	<b>FSC derogation granted until 30th April 2011</b>
<b>Cypermethrin</b>	<b>Forester</b>	<b>Yes</b>	<b>FSC derogation granted until 30th April 2011</b>



Herbicide	Hazard classification for products	Selectivity	Approved application methods
Glyphosate	Roundup ProBiactive and Envision – none For other products, refer to FC practice guide and product labels	Non-selective	Within crop – all methods, Non-forest land – all methods, < 10 m permanent water course, < 20 m standing water.
Triclopyr	Irritant to eyes and skin Harmful if swallowed or in contact with the skin Harmful to aquatic life	Perennials and woody weeds	Within crop – all methods except stem treatment, Non-forest land – all methods except stem treatment,
2,4-D/dicamba/triclopyr	Irritant to eyes and skin Harmful if swallowed Harmful to aquatic life	Annuals, perennials and woody weeds	<del>Within crop – foliar</del>
<b>Adjuvant (High Trees Mixture B)</b>	Irritant to eyes and skin Harmful if swallowed Harmful to fish	n/a	applications, Non-forest land – foliar applications,

- 2,4-D/dicamba/triclopyr not to be used on FE land.
- New formulation of Mixture B (efficacy testing is being undertaken by FR)

Herbicide	Application rates and optimal time of year		
	Cut stump	Foliar spray	Stem treatment
Glyphosate (360 g l <sup>-1</sup> )	20% solution in water;  October – February	2% solution in water plus 2% Mixture B;* (Maximum 10 l ha <sup>-1</sup> )  March – October	25% solution in water;  All year.
Triclopyr (480 g l <sup>-1</sup> )	8% solution in water;  October – March	2.5% solution in water (maximum 8 l ha <sup>-1</sup> );  June – September	N/A

\* When near water – use 2.5 % solution without adjuvant.

This a web-based, expert system developed to advise on the relative efficacy of different herbicides for scenarios with a mix of weed and crop species, at varying times of the year.

The system assumes that:

- Weed identification, impact assessment or prediction has already taken place
- It has been confirmed that there are no cost effective non-chemical alternatives available.

Herbicide Advisor produces a suitability index for each herbicide as well as further details on crop sensitivity to overall sprays and secondary weed susceptibility.

On the Forest Research internet site:

<http://www.forestry.gov.uk/fr/ggae-5jqkfd>



**Thank you!**