

## 7. SPECIFIC GUIDELINES FOR GROUP C HERBICIDES

GROUP	C	HERBICIDE
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### Moderate resistance risk

Globally herbicide resistance to the Group C herbicide mode of action has been confirmed and documented in more than 70 grass and broadleaf weed species across more than 40 countries. Resistance to the Group C mode of action is common, in fact it is the third most likely herbicide mode of action to develop resistance.

Group C resistance exists in 8 weed species across more than 100 weed populations including more than 50 populations of annual ryegrass, more than 20 populations of wild radish, liverseed grass, squirrel tail fescue (silver grass), dwarf (stinging) nettles, Indian hedge mustard and barnyard grass (“at risk weeds”).

In all situations the resistance status of “at risk weeds” should be determined prior to sowing. Resistance has developed in broadacre, horticultural and non-crop situations. CropLife Australia gives specific guidelines for the use of Group C herbicides in all situations and particularly in triazine tolerant (TT) canola, and canola with both glyphosate tolerance and triazine tolerance (TT-RR canola) following increasing reports of resistance development: -

- For “at risk weeds”, avoid using Group C herbicides as the only means of control in the same paddock in consecutive years.
- Watch and record weed escapes in paddocks with a long history of Group C use.
- Control survivors to prevent seed-set using a herbicide with a different Mode of Action to Group C or use another weed management technique.
- Avoid dry sowing in heavily weed infested paddocks. Wait for a germination of weeds after the opening rains in weedy paddocks and use a pre-plant knockdown or cultivation to maximise weed control at this stage.

#### 1. TT Canola

- Growing TT Canola in a paddock treated with triazine herbicides in the previous season is a high resistance risk and is not recommended.
- For ryegrass control, use simazine, atrazine, metribuzin or terbutylazine plus a pre-emergence herbicide with a different mode of action (eg trifluralin) prior to sowing. If necessary follow-up with a post emergent herbicide with a different mode of action (eg clethodim) to control escapes from pre-emergent treatments.

#### 2. TT-RR Canola

- Refer to the specific guidelines for Group M herbicides in addition to those given here for triazine herbicides.

All the above recommendations should be read in conjunction with the [Integrated Weed Management \(IWM\) strategies](#)

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Advice given in this strategy is **Valid as at 22 June 2018**. All previous versions of this strategy are now invalid.

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## Herbicide Resistance Management Strategies

Developed by the CropLife Australia Herbicide Resistance Management Review Group and industry researchers – **Valid as at 22 June 2018**



CHEMICAL FAMILY	ACTIVE CONSTITUENT (FIRST REGISTERED TRADE NAME)
<b>GROUP C</b>	<b>Inhibitors of photosynthesis at photosystem II (PS II inhibitors)</b>
<i>Amides:</i>	propanil (Stam <sup>®</sup> )
<i>Benzothiadiazinones:</i>	bentazone (Basagran <sup>®</sup> , Basagran <sup>®</sup> M60*, Lawnweeder plus <sup>®*</sup> )
<i>Nitriles:</i>	bromoxynil (Barrel <sup>®*</sup> , Buctril <sup>®</sup> , Buctril <sup>®</sup> MA*, Eliminar C <sup>®*</sup> , Flight <sup>®*</sup> , Jaguar <sup>®*</sup> , Talinor <sup>®*</sup> , Triathlon <sup>®*</sup> , Velocity <sup>®*</sup> ), ioxynil (Actril DS*, Totril <sup>®</sup> ),
<i>Phenylcarbamates:</i>	phenmedipham (Betanal <sup>®</sup> )
<i>Pyridazinones:</i>	chloridazon (Pyramin <sup>®</sup> )
<i>Triazines:</i>	ametryn (Amigan <sup>®*</sup> , Gesapax <sup>®</sup> Combi*, Krismat <sup>®</sup> , Primatol Z <sup>®</sup> ), atrazine (Gesapax <sup>®</sup> Combi*, Gesaprim <sup>®</sup> , Primextra <sup>®</sup> Gold*), cyanazine (Bladex <sup>®</sup> ), prometryn (Bandit <sup>®*</sup> , Cotogard <sup>®*</sup> , Gesagard <sup>®</sup> ), propazine (Agaprop <sup>®</sup> ), simazine (Brunnings RTU Path Weeder <sup>®*</sup> , Gesatop <sup>®</sup> , Yates Onceyear Path Weeder <sup>®*</sup> ), terbuthylazine (Firestorm <sup>®*</sup> , Palmero TX <sup>®*</sup> , Terbyne <sup>®</sup> ), terbutryn (Agtryne <sup>®</sup> MA*, Amigan <sup>®*</sup> , Igran <sup>®</sup> )
<i>Triazinones:</i>	hexazinone (Bobcat I-Maxx <sup>®*</sup> , Velpar <sup>®</sup> K4*, Velpar <sup>®</sup> L), metribuzin (Aptitude <sup>®*</sup> , Sencor <sup>®</sup> )
<i>Uracils:</i>	bromacil (Hyvar <sup>®</sup> , Krovar <sup>®*</sup> ), terbacil (Eucmix Pre Plant <sup>®*</sup> , Sinbar <sup>®</sup> )
<i>Ureas:</i>	diuron (Karmex <sup>®</sup> , Krovar <sup>®*</sup> , Velpar <sup>®</sup> K4*), fluometuron (Bandit <sup>®*</sup> , Cotogard <sup>®*</sup> , Cotoran <sup>®</sup> ), linuron (Afolon <sup>®</sup> ), methabenzthiazuron (Tribunil <sup>®</sup> ), siduron (Tupersan <sup>®</sup> ), tebuthiuron (Graslan <sup>®</sup> )

\* ***This product contains more than one active constituent***

List of chemical families, approved active constituents and, in parenthesis, the trade name of the first registered product or successor. Refer to the APVMA website ([www.apvma.gov.au](http://www.apvma.gov.au)) to obtain a complete list of registered products from the PUBCRIS database

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