

Autumn
2010



SUMITOMO CHEMICAL

Widen your options with FMX

Autumn Weed Control in Wheat

Widen your options with **FMX**

FluMioXazin  – An HRAC Group E contact and residual herbicide for winter wheat

- Grass-weed activity
- Broad leaf weed activity
- Can be easily mixed or sequenced with other herbicides
- Can be “stacked” with other residuals for improved control of black-grass

SumiMax[®], Digital[®]

FMX - The Product and The Crop



The Product	The Facts	The Benefit
Active ingredient and formulation	300g/L flumioxazin in a suspension concentrate	Easy to use
Rate of use and pack size	100ml/ha. Packed in 500mls, 1 pack treats 5 hectares.	Low use rate and low packaging disposal
Crop and timing	All varieties of winter wheat, from pre-emergence to gs15 on main tiller.	Effectively this is all autumn and winter.
Mode of action and activity	FMX, a PPO inhibitor (HRAC group E), has both good residual and strong contact activity. Not systemic.	Works on weeds that are present or are yet to emerge. HRAC group E means there are no resistance issues.
Broad leaf weed spectrum	Active on a full spectrum of autumn germinating broad leaf weeds including cleavers, poppy, charlock, fumitory, pansy and many others	By using FMX in a grass-weed programme, the broad leaf weeds will be controlled.
Grass-weed spectrum	Very active on annual meadow-grass. Useful activity on black-grass and ryegrass.	May be sufficient alone for annual meadow-grass control. For black-grass, by adding valuable control, FMX can be built into a programme offering a different mode of action and the opportunity to add a useful residual component.
The Crop		
Soil types	All soils up to 10% organic	Can be used in most circumstances.
Crop Safety	No risk with pre-em use. For post-emergence use, crop should be hardy enough for a herbicide with good contact activity	FMX offers pre- or post-em options to suit the conditions.
Tank mixes	Can be mixed with many other residuals pre or post. Can be mixed with BYDV products. Do not add adjuvants. See tank mix list.	FMX fits into the workload.
Sequences	No restrictions on sequences with other products including other herbicides.	No restrictions means FMX can be easily integrated into programmes
Following crops	No restrictions	Option to fit into any rotation system



Broad leaf species	Control from pre-emergence use	Control from post-emergence use	Notes
Annual sowthistle	S-MS	S	
Charlock	S	S	
Cleavers	S	S	Slight reduction in pre-em use
Chickweed	S	S	
Crane's-bill	S	S (if small)	Control varies due to prolonged germination of this weed
Field pansy	S	S	
Forget-me-not	S	S	
Fumitory	S	S	
Groundsel	S	S	
Mayweed	S	S	
Poppy	S	S	Occasional slight reduction in control reported from pre-em use
Red dead-nettle	S	S	
Shepherd's purse	S	S	Slight reduction in control reported from pre-em use
Speedwell (Ivy-leaf)	S	S	Control may be slightly reduced with pre-em use
Speedwell (Common field)	S	S	
Vol oilseed rape	MS	MS	Control can be poor if leaves are waxed
Other weeds reported			
Vol field beans	MR	S	
Vol borage	?	S	
Grass-weeds			
Annual meadow-grass	S-MS	S	Post-em use gives excellent control. For high populations or marginal conditions use one of the options suggested
Ryegrass	MS	MS	See the options
Black-grass	MR-MS	MR-MS	FMX is a suitable component in a programme. See the options

FMX and Black-grass

There are only 3 lines of defence:

1. Pre-emergence
2. Early post-emergence
3. Late autumn/post-winter


Plan your defence walls carefully by building a planned sequence of treatments.

Defence Line 1 – FMX options for pre-emergence application

FMX alone can offer between 30 and 40% control at this stage, depending on soil conditions and black-grass germination activity. FMX can be tank mixed with other products to build up a good residual component and increase black-grass control. Suitable tank mixes can significantly increase control of black-grass over the mixer product alone.

Advantages and requirements of pre-em treatments with


1. Pre-em treatment can be very successful.
2. Good crop safety
3. Good quality seedbed needed
4. Control is dependent on weeds germinating soon after time of application.
5. Slightly reduced control of some broad leaf weed species can be experienced eg: Cleavers, Ivy leaf speedwell, depending on soil conditions.
6. Adequate soil moisture is a requirement.

Building block	+ Mixer product	Advantage
 100mls/ha	+ Liberator® 0.6L/ha	Crop safety good No varietal restrictions Improved grass-weed control Can reduce Liberator to 0.4L/ha in low black-grass fields Can be peri-em or post em if delayed if crop hardened Both packs are 5 ha's. Low packaging waste No staining
	+ chlorotoluron (CTU) up to 3500gai/ha (alone or in DFF mixture)	More durable under less moist conditions Water catchment areas may restrict total CTU dose Check variety tolerance for CTU Cost efficient option Can be peri-em or post-em if delayed if crop hardened
	+ Defy® 4kg/ha	Specific pre-em treatment Improves grass and broad leaf weed spectrum of Defy Pre-em only. Not peri-em or post-em

Defence Line 2 – for Black-grass

This option is best timed early post-emergence, when the black-grass is still small and at the 1-2 leaf stage. Products applied at this timing should complement earlier applications and should build up a continuing defence with different modes of action. Products chosen should have both contact and residual activity. FMX can help by adding contact activity to other residuals and also residual activity to continue acting against weeds yet to emerge. Options chosen here can offer control of black-grass over the mixer product alone. These options depend on products chosen for the 1st line of defence. If FMX has been used pre-em, then it cannot be used post-em.

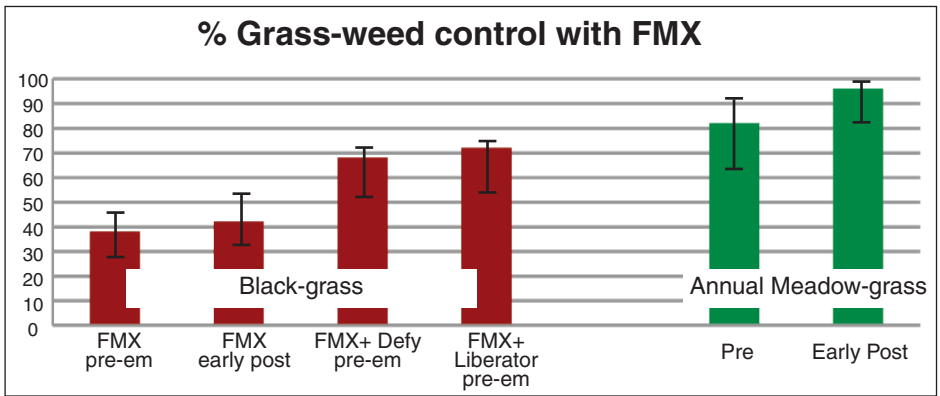
FMX options for early post-emergence application

Building block	+ Mixer product	Advantage/situation
 100mls/ha	None	FMX alone is suitable as a top-up holding spray Good BLW spectrum
	+ CTU up to 3500gai/ha	More durable under less moist conditions Water catchment areas may restrict total CTU dose Check variety tolerance for CTU Cost efficient option Crop hardened
	+ Liberator 0.6L/ha	No varietal restrictions Improved grass-weed control Improved broad leaf weed control of Liberator Can reduce Liberator to 0.4L/ha in low black-grass fields Crop needs to be hardened Both packs are 5 ha's Low packaging waste No staining

Defence Line 3 – for Black-grass

This is the final line of defence and is applied either at the end of the autumn/early winter or post-winter, depending on crop and weed status and the weather.

Options – There only is one option – a treatment with a sulfonyl-urea product based on iodosulfuron and mesosulfuron.



Options for control of Annual Meadow-grass + Broad Leaf Weeds

FMX offers excellent high level control of annual meadow-grass as well as broad leaf weeds. Annual meadow-grass and broad leaf weeds are best treated early post-emergence before the annual meadow-grass becomes too large, beyond the 2 leaf stage. The addition of low rates of a mixer can make the treatment more reliable under marginal conditions

Building block	+ Mixer Product	Crop Timing	Notes
 100mls/ha	none	Pre or post-em.	Good BL weed control If very high AMG population or late timing, use a mix below Can tank mix with a pyrethroid
	CTU (500gai/L) (+/-DFF)	If post-em crop needs to be hardened	Good option for AMG control Can tank mix with a pyrethroid
	Liberator 0.1L/ha		Can tank mix with a pyrethroid

Options for control of Ryegrass + Broad Leaf Weeds

FMX has useful activity on ryegrass but needs a tank mix partner to ensure full control.

Building block	+ Mixer product	Crop Timing	Notes
 100mls/ha	None needed if sequence planned	Early post-em if crop hardened	Can mix with a pyrethroid Sequence with eg Atlantis® when suitable
	CTU 2000gai/ha (+/-DFF)		Can mix with a pyrethroid
	Lexus® 20g/ha		Do not add adjuvant. Can mix with a pyrethroid

FMX - Conditions for successful use

In order to get the best out of FMX products, please read the label and follow the guidance given. A summary of best use conditions is given below.

Guidance and Label Instructions	
Pre-emergence	<p>FMX will give its best results when weeds are germinating or emerging.</p> <p>Moist soil helps its activity.</p> <p>Light rain within 48 hrs of application helps to maintain soil moisture and can help to spread the product over the soil surface, resulting in optimum conditions for weed control.</p>
Post-emergence	<p>Weeds should be small, especially grass-weeds.</p> <p>Crops need to be hardy enough for a good contact-acting herbicide. Wheat leaves need to have a good intact wax layer. Broken wax layers caused perhaps by wind, pest or disease can result in typical spotting caused by any PPO-acting herbicide.</p> <p>Not being systemic helps in that such crop spotting does not increase on the leaf or reduce crop growth rate.</p> <p>Take care at peri-emergence as crops may be soft at this stage.</p>
Label timings	From crop pre-em to crop gs15 (normally well-tillered before spring)
LERAP	LERAP B
Tank hygiene before and after use	Ensure spray tank is clean before and after use. Use a suitable tank cleaner such as All Clear Extra® to prevent contamination with previously used products or traces affecting subsequently sprayed crops.
Soil moisture	Soil moisture is required for optimum activity
Tank mixes	Liberator, Chlorotoluron, Defy(pre-em only), Lexus, pyrethroids eg Sumi-Alpha.
NON-MIXES	DO NOT MIX ADJUVANTS, PENDIMETHALIN PRODUCTS, OTHER PRODUCTS WHICH CONTAIN HIGH ADJUVANT LEVELS
Crop safety	<p>For pre-em use, crop needs to be drilled 25mm.</p> <p>For broadcast crops, wait until crop established.</p> <p>Do not roll crop before post-em treatment.</p> <p>For post-em use, crop needs to be hardened.</p> <p>Sequences after post-em use - 14 day interval with any following herbicides</p>

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Always read the label. Use Pesticides safely.