

A PRE EMERGENCE HERBICIDE FOR THE CONTROL OF ANNUAL GRASSES, CERTAIN BROAD LEAF WEEDS AND SUPPRESSION OF NUTSEDGE IN MAIZE, GROUNDNUTS, SOYABEANS AND POTATOES. POST PLANTING APPLICATION IN TOBACCO.

- When planting into moist soil, **FRONTIER OPTIMA** must be applied within 3 days after planting (but preferably at planting) onto a fine, even, firm and freshly prepared weed-free seedbed.
- To obtain good results, it is necessary that application be followed by 10-15 mm of rain or overhead irrigation before the weeds emerge. If rainfall does not occur in time, emerging weeds will be stunted and can easily be controlled with a shallow cultivation, which will simultaneously mix the herbicide with the top 10-20 mm of soil. A deep cultivation should be avoided as this may bring untreated soil to the surface which may result in poor weed control.
- When planting into dry soil, (insufficient moisture for germination), **FRONTIER OPTIMA** must be applied close to, but definitely before, the first rain. Weeds that have already emerged at the time of application will not be controlled.

TOBACCO

Pre-planting – Spray **FRONTIER OPTIMA** on the soil after ridging but BEFORE HOLING OUT. It can either be incorporated with a gang tiller into the top 20 to 40 mm of soil or alternatively sprayed onto the soil surface and not incorporated. Incorporation is a safety measure against heavy early rain, which might wash the chemical from the ridge into the furrow.

Post-planting – Spray **FRONTIER OPTIMA** onto the surface of the soil over the seedlings within 7 days of transplanting. With irrigated tobacco, this must be done before the settling in irrigation, which should be between 12 and 20 mm. Over irrigation will leach the herbicide into the root zone and retard early growth. Note: *FIELDS MUST BE WEED FREE BEFORE APPLICATION OF THE HERBICIDE*

Minimum or No-Till Situations

Since surface trash (stover) may reduce herbicide penetration into the soil, the higher rate for the relevant soil type will give a better result.

Control of Yellow Nutsedge

Control of Yellow Nutsedge can be improved provided the following conditions are met:

- Planting is immediately preceded by thorough ploughing.
- A relatively fine, even and firm seedbed is prepared.
- Herbicide application is followed by at least 10-15 mm of rain (or irrigation) to wash the herbicide into the soil prior to the emergence of yellow nutsedge. More rain is required on heavier soils to obtain good results.
- When planting into moist soil, application of **FRONTIER OPTIMA** should be made at or immediately after planting, to ensure herbicide activation prior to emergence of yellow nutsedge.
- When planting into dry soil (insufficient moisture for yellow nutsedge germination), application should be timed as close as possible to, but before, the first rain.

CROP	Soil Clay Content	Rate / Ha	Notes
Tobacco	0-20% 21-30%	0.7 l 1.0 l	See notes above.
Maize	10 – 20% 21 – 30% 31% +	0.6 - 0.7 l 0.7 - 0.8 l 0.9 – 1.2 l	Use the higher rate – As the soil clay content nears higher limit. If weed pressure is high. If yellow nutsedge is a problem.
Soyabeans & Groundnuts	10 – 20% 21 – 30% 31% +	0.6 - 0.7 l 0.7 - 0.8 l 0.9 – 1.2 l	Use the higher rate – As the soil clay content nears higher limit. If weed pressure is high or if yellow nutsedge is a problem.
Potatoes	0 – 10% 11 – 20% 21 – 30% 31- 40%	0.4 – 0.5 l 0.5 – 0.7 l 0.7 – 0.9 l 0.9 – 1.2 l	Use the lower rate for control of annual grasses. Use the higher rate if yellow nutsedge and / or broadleaf weeds are a problem.

GRASSES CONTROLLED:

<i>Brachia eruciformis</i>	Signal grass
<i>Digitaria sanguinalis</i>	Finger crass
<i>Digitaria ciliaris</i>	Tropical Finger Grass
<i>Echinochloa crus-galli</i>	Barnyard grass
<i>Eleusine indica</i>	Rapoko grass
<i>Dactyloctenium aegyptium</i>	Crow's foot
<i>Panicum maximum</i>	Buffalo grass
<i>Panicum schinzii</i>	Sweet Buffalo grass
<i>Setaria faberi</i>	Foxtail
<i>Setaria pallid-fusca</i>	Red Bristle grass
<i>Setaria verticillata</i>	Sticky Bristle grass
<i>Urochloa panicoides</i>	Garden Urochloa

BROAD LEAF WEEDS CONTROLLED:

<i>Amaranthus spp.</i>	Pigweed
<i>Chenopodium album</i>	Fat Hen
<i>Cleome monophylla</i>	Spindlepod
<i>Galinsoga parviflora</i>	Gallant soldier
<i>Nicandra physaloides</i>	Apple of Peru
<i>Portulaca oleracea</i>	Purslane
<i>Richardia brasiliensis</i>	Tropical Richardia
<i>Schkuhria pinnata</i>	Dwarf Marigold

Under favourable climatic conditions, the following weeds are controlled - enhanced control if mixed with a suitable broadleaf herbicide:

<i>Bidens pilosa</i>	Blackjack
<i>Commelina benghalensis</i>	Wandering Jew
<i>Cyperus esculentus</i>	Yellow nutsedge
<i>Datura stramonium</i>	Thorn apple
<i>Richardia scabra</i>	Mexican clover
<i>Tagetes minuta</i>	Khaki weed
<i>Tribulus terrestris</i>	Devil's thorn
<i>Xanthium strumarium</i>	Cocklebur

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