



STEADFAST

A BETTER WETTER

794 g/l alkylaryl polyoxyethylene glycol phosphate ester

SPREADER - ACTIVATOR - ACIDIFYING AGENT

Used for Lowering pH in spray tanks to reduce chemical breakdown

Assists with Tank Mix Compatibility

A Wetting and Spreading Agent

Use to Clean Tanks, Lines, Filters & Nozzles

"I hope you guys never stop making this stuff, I could see the line in my fallow paddock where I swapped over to an old wetter when I ran out of your stuff. I'll never use anything but Steadfast ever again" - STEVE MORELLO: MIXED VEGETABLE GROWER, STANTHORPE



STEADFAST
A BETTER WETTER

STEADFAST VS XX 700 *

*(any 350 g/L Soyol Phospholipid + 350g/L Proponic Acid)

THE FOLLOWING IS A GUIDELINE FOR COMPARING RATES OF ANY XX 700 PRODUCT TO STEADFAST.

PLEASE NOTE:

At the 30-60 ml rate Steadfast will also act as an effective wetter, spreader and compatibility agent, unlike the lower rates of XX 700

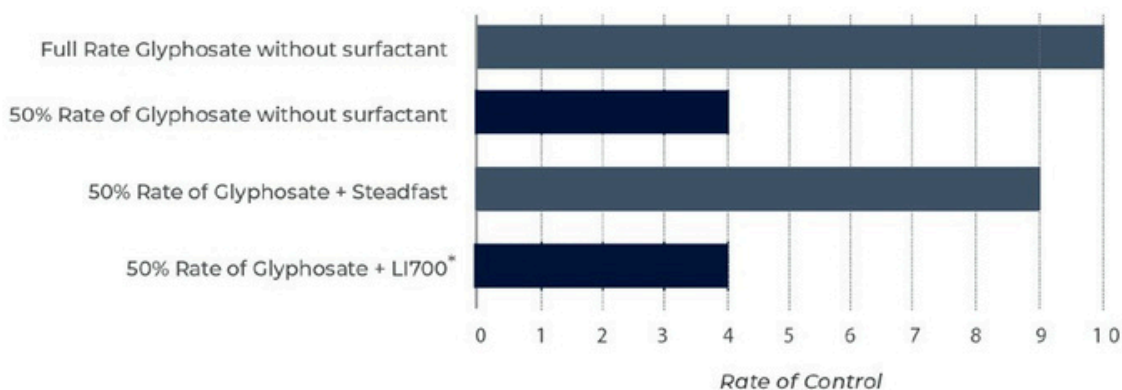
		ml Rate per 100 litre of Water	
		XX 700 *	Steadfast
Ph Adjuster		62.5	30
		100	50
		125	60
		150	60
		200	60
Wetter and Spreader		250	60
		300	75
		350	85
		400	100
		450	110
		500	120

Steadfast will normally be more cost effective than the competitor, particularly when comparing label rates for wetting, spreading and as a compatibility agent.

PLUS you get the bonus of looking after your equipment better along the way.

In an independent trial conducted by Dr Ian Taylor of the CCC CRC, Steadfast was compared to LI700* and was shown to be more effective. Steadfast and LI700* were added to a 50% rate of Glyphosate and these were compared to a full label rate of Glyphosate and a 50% rate, both without any surfactant.

The results in level of control are illustrated below



The addition of Steadfast to the half rate of Glyphosate # increased the level of control when compared to LI700*, making the Glyphosate more effective. Adding Steadfast to the half rate increased the knockdown to almost that of the full rate of Glyphosate. This will make weed control in hard conditions more effective and increase control in hard to kill weeds. Steadfast is at least comparable and often less expensive per Ha than other buffering agents or spreader buffers – making it by far the BETTER WETTER!

When using any agricultural product, the label should be read thoroughly, and the label rates followed accordingly. Growth Agriculture does not recommend using below label rates. This trial was conducted for demonstration purposes only.

*LI700 is registered trade name of Loveland Product Inc.

Disclaimer: Growth Agriculture have obtained the information from manufacturers and various technical publications. Growth Agriculture believes that all sources are true and reliable. Information regarding specific chemicals and their pH sensitivities should be confirmed with individual manufacturers

Evaluation of Steadfast at two different rates in a tank mix with Glufosinate 200 SL for the control of Crowsfoot grass weeds in fallow.

In an independent trial conducted by Agreco Australia in Bundaberg the efficacy of two rates of Steadfast was compared to an LI700* equivalent and to Glufosinate 200 SL on its own. A copy of the full trial report is available on request

Table 2. % Weed control –Adjuvant high rate

Treatment	Rate (mL/100L)	% Weed Control	
		7DA-A	14DA-B
1 Steadfast + Biffo 200 SL	60 + 3000 mL/ha	62.5	81.3 a
2 Spraybuff 700 + Biffo 200 SL	500 + 3000 mL/ha	50.0	56.3 b
P(T<=t) two-tail		0.13	0.03
t Critical two-tail		2.45	2.45

Steadfast at 60 mL/100 L tank mixed with Biffo 200 SL had comparable and superior % control of Crowsfoot grass when compared to Spraybuff 700 at 500 mL/100 L tank mixed with Biffo 200 SL, at 7 and 14 DA-A, respectively.

Table 4. % Weed control –Adjuvant high rate

Treatment	Rate (mL/100L)	% Weed Control	
		7DA-A	14DA-B
1 Steadfast + Biffo 200 SL	60 + 3000 mL/ha	62.5 a	81.3 a
2 Biffo 200 SL	3000 mL/ha	28.0 b	43.8 b
P(T<=t) two-tail		0.02	0.01
t Critical two-tail		2.45	2.45

Steadfast at 60 mL/100 L tank mixed with Biffo 200 SL had superior control of Crowsfoot grass compared to Biffo 200 SL applied alone at 7 and 14 DA-A.



Photograph 1: Steadfast (60 mL/100L) + Biffo 200 SL (3000 mL/ha), 14 DA-A



Photograph 3: Biffo 200 SL (3000 mL/ha), 14 DA-A

WATER QUALITY AND YOUR CHOICE OF ADJUVANT

The quality of the water you add to your spray tank is one of the biggest under rated factors in a spray application. It can play an important role in the effectiveness of the chemistry that you are applying and choice of adjuvant you use to achieve the best result from your spray application.

Many agricultural chemicals degrade rapidly in high pH (alkaline) water. It is very common to have bore water or irrigation water with a pH of 8.0 or above. Phosphate insecticides and many other pesticides degrade rapidly when placed in this water. The effect can reduce the activity of pesticides before the spraying operation is completed.

Steadfast helps protect your chemical investment through pH adjustment. In most cases **Steadfast** will lower the pH of alkaline water by 2 or more points. Reduction of pH will vary from one water source to another, however **Steadfast** is active enough in most waters to adjust the pH into a safe range.

Steadfast does not affect the soluble salt content of the water.

When following label directions, **Steadfast** is more cost effective than other commonly used combination wetter/buffers. The bottom line is that losses due to alkaline hydrolysis are permanent, irreversible and costly.

*Biffo 200SL is a registered trademark of Nufarm Australia, Spraybuff 700 is a trademark of Agricrop Australia

SITUATION	RATE	CRITICAL COMMENTS
Acidifying Agent (to lower pH)	30 to 60 mL per 100L water	Add GROWTH STEADFAST then pesticides after tank is at least half full.
Compatibility Agent	30 to 60 mL per 100 L water	Pesticides: When the spray tank is at half full and continuing to fill under agitation, first add GROWTH STEADFAST, then add wettable powders and flowables. Allow to mix for 3 or 4 mins. Then add emulsifiable concentrates, SLOWLY. Last, put other additives in the tank, such as stickers or extenders. No other surfactants, spreaders, wetting agents, or herbicide activators are needed as GROWTH STEADFAST is an excellent product for these functions.
	60 to 120 mL per 100 L water	Nitrogen Solutions & Liquid Fertiliser Solutions: To improve the compatibility of herbicide & insecticide combinations applied in nitrogen solutions or in liquid fertiliser solutions, add GROWTH STEADFAST to the fertiliser solution before the herbicides or insecticides are put in the tank.
Surfactant	30 to 120 mL per 100 L water	GROWTH STEADFAST functions as a spreader by helping to reduce the surface tension of the water droplets. GROWTH STEADFAST is especially useful when applied with contact herbicides. GROWTH STEADFAST can be used with Paraquat herbicides to improve their activity by improving spreading and penetrating activity. When applying with Paraquat herbicides in combination with nitrogen solutions or liquid fertilisers, use GROWTH STEADFAST at the rate of 60 mL per 100 L. Always apply mixtures containing Paraquat herbicides with adequate water coverage, generally 150 to 200 L water or liquid fertiliser mix per hectare, when applied by ground applicator and at least 30 L of spray mix per hectare by aircraft.
Tank Cleaning	30 to 120 mL per 100 L water	GROWTH STEADFAST is an excellent tank cleaner. Continued use of the product will help keep tanks, lines, screens and nozzles clean.
Cotton Spindle Cleaning	60 mL per 100 L water	While filling picker tank with water, add GROWTH STEADFAST when about one-half full. Mix thoroughly with water by circulation or by stirring.
Electrostatic, Conventional & Callenberg Type Spray Systems	15 to 30 mL per 100 L water	Continued use of GROWTH STEADFAST will help to keep tanks, lines, screens and nozzles clean from particle build-up associated with soluble bag and wettable powder formulations.
Anti-crusting Agent for Soils	60 mL per 100 L water	Reduction or prevention of crusting is necessary for any seedling operation of small-seeded vegetables. Increasing soil organic matter and limiting the number of secondary tillage operations that reduce soil particle size will help prevent soil crusting. In addition, applying GROWTH STEADFAST over the row at planting will help reduce later crusting caused by heavy, compacting rains. Apply 5 L of mix per 100 metres of row in a 5 to 10cm band.



Before cleaning with Steadfast

After cleaning with Steadfast

