WEED CONTROL PROGRAMS FOR GLYPHOSATE RESISTANT SUMATRAN FLEABANE IN
GLYPHOSATE, GLUFOSINATE AND 2,4-D TOLERANT SOYBEANS IN ARGENTINA

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Sumatran fleabane (Conyza sumatrensis), which infested around 10 million hectares in 2016/17
season, has become one of the key weeds in Argentina due to increasing levels of glyphosate
resistance and few available modes of action for its control in soybean crops. During 2015/16,
2016/17 and 2017/18 summer seasons, eight field trials were conducted to assess the efficacy of
different weed control programs based on pre-plant applications of synthetic auxins in mix with
ALS inhibitor followed by post-emergence applications of 2,4-D choline salt and glufosinate over
the top of tolerant soybeans (Enlist E3™ soybeans) in comparison to currently available
treatments for glyphosate tolerant soybeans. Visual control percentage was evaluated two weeks
after the finalization of the programs. Pre-plant applications of glyphosate plus halauxifen-methyl
plus diclosulam or a double knockdown strategy with glufosinate followed by an early post-
emergence application of glyphosate plus 2,4-D achieved the best results regarding visual control
(over 95%). These treatments were statistically different from current control strategies for
glyphosate tolerant soybeans (less than 75% visual control) according to Tukey’s HSD (p< 0.05).
Enlist™ programs delivered yield increase that varied from 10% to 32% versus the most common
current standard treatment that consisted of glyphosate, 2,4-D and chlorimuron at pre-plant and
glyphosate at post-emergence. These results indicate that the utilization of 2,4-D choline and
glufosinate over the top of Enlist™ soybean in combination with effective foundation treatments
provides a tool capable of controlling glyphosate resistant C. sumatrensis, offering a sustainable
solution to manage this weed and protecting crop yields.

Palavras-chave: chemical control, weed management, glyphosate resistance, tolerant soybeans.