Dedalo ELITE 2,4 D

"EVALUATION OF PERFORMANCE OF DIFFERENT 2,4-D FOR CONTROLLING CONYZA BONARIENSIS"

Field test - 2017

School of Agricultural Sciences Universidad Nacional de Rosario

PARTICIPANTS

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"EVALUATION OF PERFORMANCE OF DIFFERENT 2,4-D FOR CONTROLLING *CONYZA BONARIENSIS*"

The objective of this study was to assess the behavior of different formulations of 2,4-D combined with glyphosate to control Conzya bonariensis in a fallow before soybean cultivation.

MATERIALS AND METHODS

The experiment was conducted in 2017, in a fallow, in a plot with a sequence single crop soybean - single crop soybean in the experimental field of the School of Agricultural Sciences located in Zavalla (Santa Fe) (Lat. 33° 01'S Long. 60° 53'W).

The statistical design was randomized complete blocks, and experimental units were plots of 30 m^2 with 3 repetitions.

The sprayer boom width was 2.1 m. Apart from the control plot that received treatment, but was not controlled, there was a lateral area of 0.9 m in each plot that did not receive treatment (no treatment control plot).

Herbicide treatments are shown in Table 1.

Table 1 Herbicide treatments

ID	Description
T1	700 cm^3 of 2,4-D 30% (2,4-Dichlorophenoxyacetic acid) + 2,000 cm^3 glyphosate 54% [potassium salt of N-(phosphonomethyl) glycine]
T2	1,000 cm^3 of 2,4-D 30% (2,4-Dichlorophenoxyacetic acid) + 2,000 cm^3 glyphosate 54% [potassium salt of N-(phosphonomethyl) glycine]
T3	700 cm^3 2,4-D 97% (ethylhexyl ester of 2,4-D acid) + 2,000 cm^3 glyphosate 54% [potassium salt of N-(phosphonomethyl) glycine]
T4	1,000 cm^3 2,4-D 97% (ethylhexyl ester of 2,4-D acid) + 2,000 cm^3 glyphosate 54% [potassium salt of N-(phosphonomethyl) glycine]
T5	1,000 cm^3 2,4-D 66.9% (choline salt of 2,4-Dichlorophenoxyacetic acid) + 2,000 cm^3 glyphosate 54% [potassium salt of N-(phosphonomethyl)
T6	1400 cm^3 2,4-D 66.9% (choline salt of 2,4-Dichlorophenoxyacetic acid) + 2,000 cm^3 glyphosate 54% [potassium salt of N-(phosphonomethyl)
T7	Control plot that received treatment, but was not controlled

Applications took place on July 13, 2017, with constant CO2 pressure of 2.5 kg/cm2 with a flat spray tip 80015. The applied volume was 83 L/ha.

Environmental conditions measured with the portable weather station G2Tech at a 1.5 m height are shown in Table 2:

Table 2: Environmental conditions during spraying

Temperature:	17°C
Relative humidity:	73%
Average wind:	15 km/h
Wind gusts:	18 km/h

EFFICACY DETERMINATION

The percentage of visual weed control compared to the area that received treatment, but was not controlled, was assessed 15 and 40 days after application (DAA).

STATISTICAL ANALYSIS

Results were analyzed with Statgraphics 5.1. software using ANOVA, and the Fisher's LSD test on multiple comparisons to assess meaningful differences in average values ($P<0.05$).

RESULTS

At the beginning of the experiment, Conyza bonariensis plants were in the vegetative stage with 15 leaves and a stem elongation of 7 cm on average.

Weed control 15 days after application was high in all the plots that received treatment.

Although there were not many statistically significant differences among average values, the highest control percentage (80%) was observed in treatments T2 (1,000 cm^3 2,4-D 30% + 2,000 cm^3 glyphosate 54%) and T4 (1,000 cm^3 2,4-D 97% + 2,000 cm^3 glyphosate 54%) (Table 3).

Table 3: Conyza bonariensis control percentage 15 days after application.

Treatments	*% Control*	
1	70	a
2	80	a
3	70	a
4	80	a
5	70	a
6	75	a

Treatments with the same letter do not have statistically significant differences according to a LSD test ($p<0.05$).

The highest control percentage 40 days after application was observed in T2 (1,000 cm^3 2,4-D 30% + 2,000 cm^3 glyphosate 54%), T4 (1,000 cm^3 2,4-D 97% + 2,000 cm^3 glyphosate 54%) and T6 (1,400 cm^3 2,4-D 66,9% + 2,000 cm^3 glyphosate 54%). However, no significant differences were observed when compared to the other treatments (Table 4).

Table 4: Conyza bonariensis control percentage 40 days after application.

Treatments	*% Control*	
1	93	a
2	95	a
3	93	a
4	95	a
5	93	a
6	95	a

Treatments with the same letter do not have statistically significant differences according to a LSD test ($p<0.05$).

Trade names of products used are the following:
Eskoba Full II, Enlist, Dedalo Elite, Herbifen Advance.

Pictures of treatments 40 days after application are enclosed below.

TREATMENT, NOT CONTROLLED PLOT

T

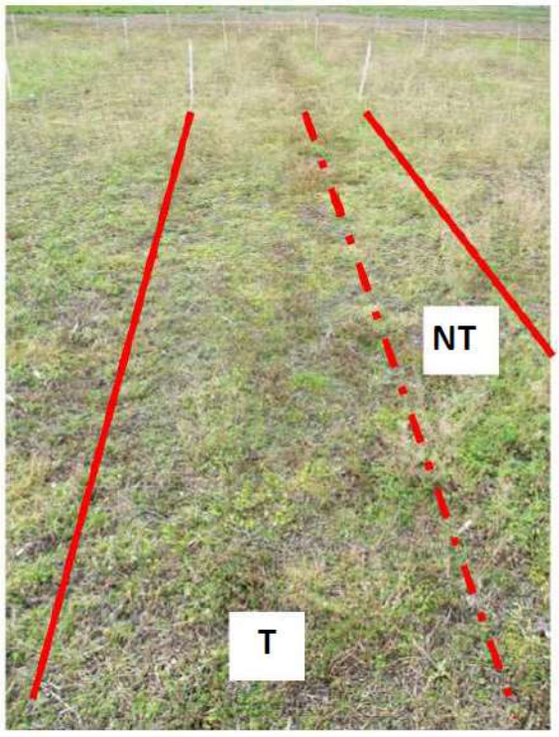
TREATMENT

NT

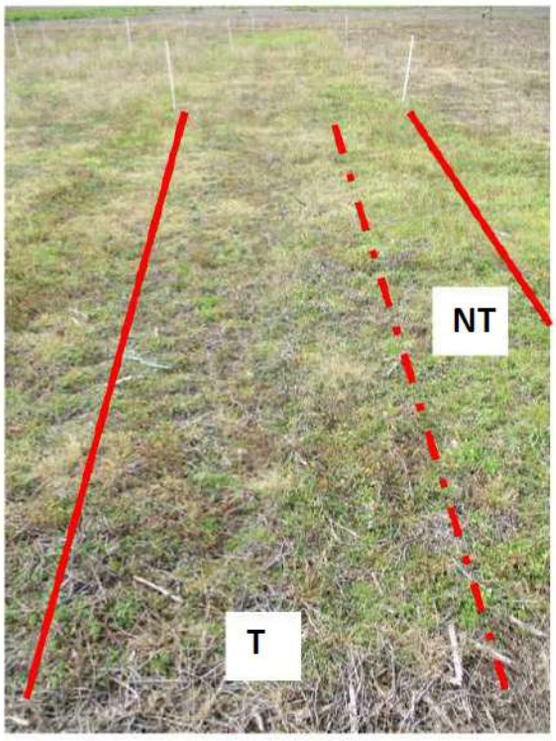
NO

TREATMENT

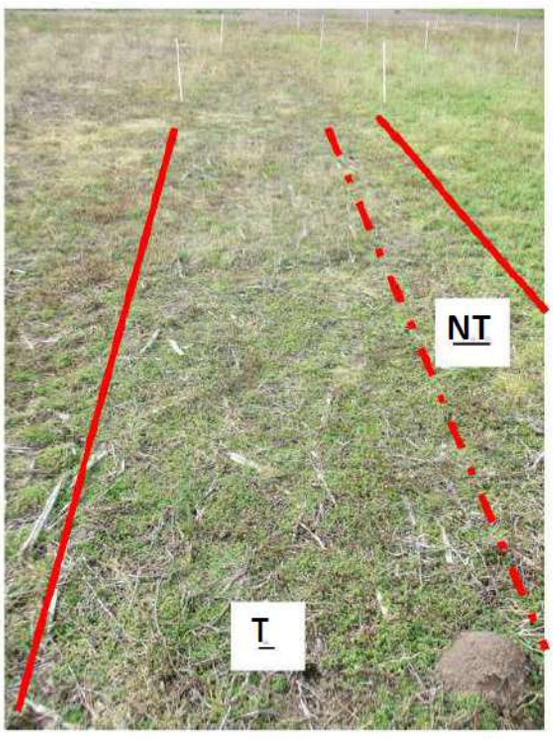
T1



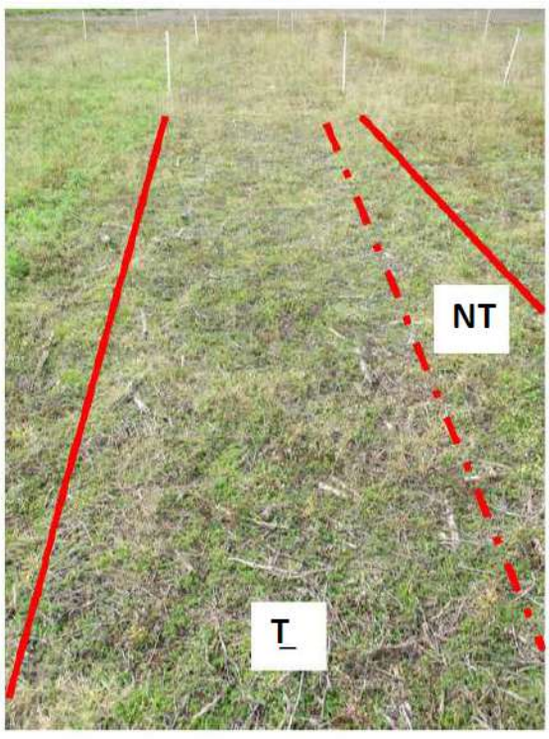
T2



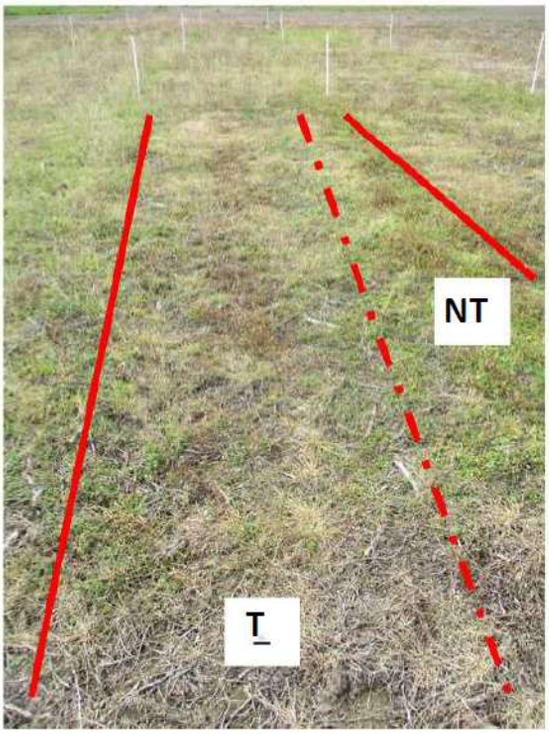
T3



T4



T5



T6