RESEARCHES ON THE CONTROL OF THE COMMON REED (*Phragmites australis* (Cav.) Trin. Ex Steud.) IN AREAS OF THE IRRIGATION OR DRAINAGE CHANNELS

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Abstract

The research was undertaken during 2016 and 2017 in the pedoclimatic conditions at the farm SC Agroprod Seaca SA (aluviosol type soil, with a humus content of 4.2%), refers to the possibility of controlling the invasive species *Phragmites australis* (common reed) *in* the draining systems from the area. Tt was studied the influence of different methods of common reed control, in corn field and different methods applyed on from the area, (still in experiment for the next year), by comparing the use of glyphosate, with other *Phragmites australis* (common reed) control methods. In treated area (dry drainage canals), herbicide efficacy was evaluated 30 and 60 days after treatment considering a scale from 0 to 100% for control of common reed (in 2016-2017). In autumn of 2016, the common reed was burned or cut, the effectiveness of these methods, applied, on flood protection dams, in 2016, was appreciated on 11 April 2017, together with the efficacy assessment after application, at different time, in 2017.

Key words: *Phragmites australis*, control, corn field, flood protection dams

Worldwide corn crop ranked second in terms of cultivated areas (faostat.fao.org/site/). Weed control is an important component of any crop technology. Weed causes significant losses in maize production, these losses are proportional to the weeding, weeding spectrum, the timing of weed, weed biomass (Silva P.S.L. *et al*, 2011). Depending on the degree of weeds growing, corn losses can be up to 70% of production potential (Teasdale J.R., 1995), going to compromise culture. *Phragmites*, or common reed, is a perennial grass often associated with wetlands. *Phragmites* can grow or can occupy low-pitched water (buoyant or flowing). The existence of reed in field crops is usually associated with agricultural areas related to the agricultural circuit and/or in areas where stabilization of water regimes has been done. Such places, which have draining systems from the area or water-covered surfaces, structures that keep wet areas for long periods of time, creating favorable conditions for the to become a problem. Common reed plants are less competitive when there are variations in water level or alternations of wet and dry years. (Cross D.H., Fleming K.L., 1988). Combination of cutting and herbicide application has been considered to be a successful control measure for common reed (Kliemand G., 1974; Wilson D.B., 1977; Buttler A., 1992; Kay S.H., 1995). According to Buttler (1992) this is probably due to the decrease of reducing, non-reducing and total sugar content of rhizomes and changes on the vegetation structure.

MATERIAL AND METHOD

The researches were conducted in climatic conditions from farm SC Agroprod Seaca SA, about 15 km east of Turnu Măgurele and 10 km north of the Danube River, characterized by a soil type aluviosol with a humus content of 2.8%. To achieve these objectives was founded in 2017 a with monofactorial experience with 10 variants (V_1=Untreated control; V_2=hoeing check, first hoeing at stage of corn 2-3 leaves; V_3=second hoeing at stage of corn 8 leaves; V_4=Equip (foramsulfuron 22.5 g/l + isoxadifen etil as safener 22.5 g/l) in dose of 2.5 l/ha; V_5=propane flame, in 2-3 corn leaf stage; V_6=propane flame, in 4-6 corn leaf stage; V_7=Glyphogan 480 SL (glyphosate acid 360 g/liter), applied undiluted with touch wicks fed by drip (Wick Rope hand Applicator) in 2-3 corn leaf stage; V_8=Glyphogan 480 SL (glyphosate acid 360 g/liter), in dose of 0.5 l Glyphogan 480 SL/0.5 l water applied with touch wicks fed by drip (Wick Rope hand Applicator) in 2-3 corn leaf stage; V_9=Glyphogan 480 SL (glyphosate acid 360 g/liter), in dose of 180 ml Glyphogan 480 SL/1 l

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water applied with touch wicks fed by drip (Wick Rope hand Applicator) in 2-3 corn leaf stage; V_{10}=Titus® Plus (3.26% rimsulfuron + 60.87% dicamba) 0.1% adjuvant Trend® 90, in dose of 60 g/ha, in two treatments, the first in stage of 2-3 corn leaves, the second stage of 4-6 leaves in corn, applied with nozzle with directed protection. The same 10 variants were applied after pre-emergence treatment with Frontier® Forte (active substance 720 g/l dimethenamid-P) at a dose of 1 l/ha (control spectrum for annual monocotyledonous weeds and some annual dicots). In 2016 and 2017, (still yet in experiment in the next year), experiment was done in dry drainage canals, glyphosate applied at two different rates (6 and 10 l Roundup/ha, in 2016 and 6 and 12 l Roundup/ha, in 2017) aiming to, visible effect of herbicide and in the next year, control of *Phragmites australis* (common reed). In 2016 glyphosate was applied on May 10, June 9, July 1 and July 26, in experimental plots of 75 m^2, application and in 2017 were applied on June 6, July 11 and August 17, in experimental plots of 100 m^2, at dose of 6 and 12 l/ha. In treated area herbicide efficacy was evaluated 30 and 60 days after treatment considering a scale from 0 to 100% for control of common reed (in 2016-2017) and in 2017 the density of the common reed was monitored in areas. In autumn of 2016, the common reed was burned or cut, the effectiveness of these methods was appreciated on April 3 2017 together with the efficacy assessment after application, in 2016, of herbicide Roundup (glyphosate 360 g/l) at dose of 6 and 10 l/ha, due to regeneration of common reed from rhizomes. For each of the 10 experimental variants was calculated average, participation and constancy weed before and after the treatments. Average = S/N, where S is the total number of plants of one species found in all points of determination and N the number of points where determination was done, in other words the average number of weeds in a certain species/m^2.

Participation P% = m x 100/ M, where M = ∑ *m* and represent the average number of weeds/m^2, the sum of all media of weed species identified. Constancy, K%=n x 100/N, where N is the number of points where a certain species was present.

There was recorded: weeding degree, the numerical method, before applying the treatments (*table 1*); weeding degree, numerical method, after treatment application (at 2 weeks); weeding degree, gravimetric method, at harvest; weed biomass, gravimetric method, at harvest; degree of weed control, gravimetric method, at harvest; production (*table 2*). In treated area herbicide efficacy was evaluated 30 and 60 days after treatment considering a scale from 0 to 100% for control of common reed (in 2016-2017) and in 2017 the density of the common reed was monitored in areas. In autumn of 2016, the common reed was burned or cut, the effectiveness of these methods was appreciated on April 3 2017 due to regeneration of common reed from rhizomes, together with the efficacy assessment after application [in 2016 and 2017, Roundup (glyphosate 360 g/l) applied at two different rates (6 and 10 l Roundup/ha, in 2016 and 6 and 12 l Roundup/ha, in 2017]. In 2016, on flood protection dams, Roundup (glyphosate 360 g/l) treatments, were performed on May 10, June 9 and July 14, common reed burning was done on November 16, 2016, in 2017 Roundup (glyphosate 360 g/l) treatments, were performed on June 6, July and August 02 and common reed cutting was done on June 6, July 11, August17 and in the area where the bush was destroyed by burning (in November 16, 2016), was done on April 3, 2017, in the same time was done common reed cutting and glifost herbicide at a dose of 6 l/ha. Efficacy of the herbicide was evaluated 30 and 60 days after treatment considering a scale from 0 to 100%.

RESULTS AND DISCUSSIONS

Weed spectrum before treatments for weed control was represented by two perennial monocotile weed species *Phragmites australis*, *Sorghum halepense*, 2 species of perennial monocotyledonous weed species *Setaria* spp., *Echinochloa crus galli* and 4 annual dicotyledonous weeds species *Xanthium strumarium*, *Sinapis arvensis*, *Chenopodium album*, *Galinsoga parviflora*, and 2 species of annual dicotyledonous weeds species *Convolvulus arvense*, *Cirsium arvense*. Average, participation and constancy of species distribution before treatments data are centralized in *table* 1.

Table 1

Weed spectrum of experimental plots before treatments for weed control

Species	A*	P**	C***
Phragmites australis	9.8	18.5	66.1
Sorgum halepense	4.4	8.3	22.8
Perennial monocotyledonous	14.2	26.8	
Setaria spp.	15.2	28.7	40.6
Echinochloa cruss galli	10.8	20.4	38.6
Annual monocotyledonous	26.0	49.1	
Xanthium strumarium	2.8	5.3	12.2
Chenopodium album	3.2	6.0	18.8
Sinapis arvensis	1.8	3.4	23.4
Galinsoga parviflora	2.4	4.5	26.8
Annual dicotyledonous	10.2	19.2	
Convolvulus arvense	1.2	2.3	22.4
Cirsium arvense	1.4	2.6	33.2
Perennial dicotyledonous	2.6	4.9	
Total	53.0	100.0	

*Average; ** Participation; *** Participation

The analysis of data on the average number of weeds is found that the average number of weeds/m^2 was 53.0 plants/m^2, number of annual dicotyledonous weeds was 10.2 plants/m^2, and the number of annual monocotyledonous weeds was 26.0 plants/m^2. Regarding participation weed species is found that the largest share had an annual monocotyledonous species with 49.1%, while the lowest participation had dicotyledonous perennial species which did not exceed 4.9%. Constancy of presence of weed species in points of determination did not exceed 66.1%. Analyzing the data presented we find that before post-emergence treatments, there were no significant differences in weed spectrum, the average number of weeds/m^2, participation and constancy. Refferring to weeding maize crop at harvest, *table 2*, contains data on weed (numerical method) on species and groups of weed and control degree.

Influence of different methods of weeds control in corn field presented in *table 2* shows centralized data on weed species on corn crop, under the influence of applied methods of control.

Analyzing the data results that: applying the methods for control of *Phragmites* reduce the number of plants/m^2 from 41.1, at untrated check to 0.2 by ussing Glyphogan 480 SL, applied undiluted with Wick rope hand applicator (in 2-3 corn leaf stage). *Sorghum halepense* is well controled through applying control methods, so from 19.4 at untrated check to 0.0 by ussing propane flame, in 4-6 corn leaf stage and Titus® Plus, in dose of 60 g/ha, in two treatments or 0.1 by ussing Glyphogan 480 SL, applied undiluted with Wick rope hand applicator. *Setaria* spp. is also well controled through applying control methods, so from 66.9 at untrated check to 0.0 in variants V_4, $V_{7\text{-}10}$. *Echinochloa crus-galii* is also well controled through applying control methods, so from 47.5 at untrated check to 0.0 in variants $V_{7\text{-}10}$. *Xanthium strumarium* is controled through applying control methods, so from 12.3 at untrated check to 0.0 – 0.6, exception without results (12.2) by applying Titus® Plus, in dose of 60 g/ha, in two treatments. *Chenopodium album* is also controled through applying control methods, so from 14.1 at untrated check to 0.0 – 0.8, exception without results (13.8) by applying Titus® Plus, in dose of 60 g/ha, in two treatments. *Sinapsis arvensis* is controled through applying control methods, so from 7.9 at untrated check to 0.0 – 0.1, exception without results (7.8) by applying Titus® Plus, in dose of 60 g/ha, in two treatments. *Galinsoga parviflora* is controled through applying control methods, so from 10.6 at untrated check to 0.0 – 0.4, exception without results by applying Titus® Plus, in dose of 60 g/ha, in two treatments.

Convolvulus arvensis is controled through applying control methods, so from 5.3 at untrated check to 0.0 – 1.6, exception almost without results (5.0) by applying Titus® Plus, in dose of 60 g/ha, in two treatments. *Cirsium arvense* is controled through applying control methods, so from 6.2 at untrated check to 0.0 – 1.8, exception without results (6.2) by applying Titus® Plus, in dose of 60 g/ha, in two treatments and (4.0) by applying and 4.0 in case of applying propane flame, in 4-6 corn leaf stage. Regarding efficacity of different *Phragmites australis* control methods results showed that total weeds are controled through applying control methods, so from 233.3 at untrated check to 0.5 – 17.9, exception with less results (67.8) by applying Titus® Plus, in dose of 60 g/ha, in two treatments and (4.0) by applying and 4.0 in case of applying propane flame, in 4-6 corn leaf stage.

Considering the effectiveness of different control methods used in the experiment, show that each variant can cause significant reduction in the number of weeds, in what concerns a particular species and the categories of weeds, showed that degree of weeds controled through applying control methods, is very good, between 99.5 – 88.7, [best results were obtained in variant 7 (Glyphogan 480 SL, applied undiluted with Wick rope hand applicator), folowed by variant 8 (Glyphogan 480 SL, applied in dose of 0.5 l Glyphogan 480 SL/0.5 l water applied with Wick rope hand applicator) and on the third place at variant 5 (propane flame, in 2-3 corn leaf stage)].

Considering the effectiveness of different control methods used in the experiment, taking into consideration weeds biomass, results showed that each variant can cause significant reduction in the weeds biomass, in what concerns a particular species, the categories of weeds and total weeds biomass, so weeds total biomass decrease from 4217.1 at untrated check to 22.9 by ussing Glyphogan 480 SL, applied undiluted with Wick rope hand applicator (in 2-3 corn leaf stage), between 84.9 to 477.1 (variants 2 - 6 and 8-9), exception with less results (2984.4) by applying Titus® Plus, in dose of 60 g/ha, in two treatments and (4.0) by applying and 4.0 in case of applying propane flame, in 4-6 corn leaf stage.

Table 3 centralized data obtained regarding maize yields under the influence of weed control methods applied. It found that yields ranged from 3,200 kg/ha in case of untrated control up to 8,600 kg/ha in case of two hoeing, second hoeing at stage of corn 8 leaves, the best results were recorded for the first 3 places V_3 [Hoeing check, two hoeing (8,600 kg/ha)], V_7 [Glyphogan 480 SL, applied undiluted with Wick rope hand applicator (8,450 kg/ha)], V_6 [Propane flame, in 4-6 corn leaf stage (8,100 kg/ha)], while the worst results were recorded, for the first 3 places, in decreasing order, in V_{10} [Titus® Plus, in dose of 60 g/ha, in two treatments (5,100 kg/ha)], V_5 [Propane flame, in 2-3 corn leaf stage (6,800 kg/ha)] and V_4 [Equip in dose of 2.5 l/ha (7,200 kg/ha)], where, in these variants production still increased with 1,900, 3,600 and 4,000 kg/ha.

All weed control methods applied were determined to obtain very significant production increases compared to the untreated control.

Applying glyphosate, on flood protection dams (*figure 1*), to control common reed, has better results if the treatment was applied earlier, during a vegetation period and with a higher dose of herbicide.

Figure 1 **Spraying the Glyphosate herbicide on the flood protection dam**

Counting number of common reed plants/m_2 on 3 April 2017, after applying of glyphosate at diferent date (10 May, 9 June, 1 July and 26 July, 2017) at different doses (6 or 10 l/ha), reduce number of common reed plants from 51.2 at lower level (from 9.1 to 18.7 after applying 6 l/ha, or from 4.5 to 8.5 after applying 10 l/ha) (*table 4*).

The use of burning (*figure 2*) or cutting of common reed plants, in November, has little influence on the development of *Phragmites australis* plants in the following year.

Figure 2 **Burning of common reed on the flood protection dam**

The number of common plants/m_2 on April 3, 2017, after burning, reduced the number of common reed plants from 51.2 to 38.7, while the hoeing decreased the number of common reed plants from 51.2 to 48.3 (insignificant difference) (*table 4*).

Table 3

Corn yields obtained under the influence of weed control methods

Variant	Weed control methods	Production (kg/ha)	Differences
V_1	Untreated control	3200	-
V_2	One hoeing at stage of corn 2-3 leaves	7900	4700
V_3	Two hoeing, second hoeing at stage of corn 8 leaves	8600	5400
V_4	EQUIP in dose of 2.5 l/ha	7200	4000
V_5	Propane flame, in 2-3 corn leaf stage	6800	3600
V_6	Propane flame, in 4-6 corn leaf stage	8100	4900
V_7	Glyphogan 480 SL, applied undiluted with Wick Rope hand Applicator	8450	5250
V_8	Glyphogan 480 SL, in dose of 0.5 l/0.5 l water applied with Wick Rope hand Applicator	8080	4880
V_9	Glyphogan 480 SL, in dose of 180 ml/1 l water applied with Wick Rope hand Applicator	7550	4350
V_{10}	Titus® Plus, in dose of 60 g/ha, in two treatments	5100	1900

It can be noticed that the application of the herbicide earlier, during the vegetation period, results in a more intense and obvious damage to the common reed, as it results from the application in 2017 of the 6 l/ha treatment in June and August.

It can be argued, as can be seen from the data presented in *table 4*, that the effect of the common reed control treatments by applying the glyphosate herbicide at different doses during the vegetation period is more noticeable after 60 days than after 30 days.

Observations made after one year on the surfaces where the control by herbicide glyphossate was applied show that although *Phragmites australis* plants disappear from the existing weed structure their place is occupied by other weed species.

The use of burning or cutting of common reed plants, in November, has little influence on the development of *Phragmites australis* plants in the following year.

Table 4
Effect of applying glyphosate ond other methods to control common reed

Year	Date	Glyphosate dose (l/ha)	Effect of treatmentoncommon reed (scale 0-100)		Number of common on 3 2
			After 30 days	After 60 days	
2016	**10 V**	6	35	55	9.1
		10	43	65	4.5
	9 VI	6	30	50	11.6
		10	41	62	6.2
	1 VII	6	33	45	14.5
		10	40	55	7.8
	26 VII	6	30	41	18.7
		10	36	52	8.5
	23 XI	Burning	-	-	38.7
	23 XI	Cuting	-	-	48.3
	Check	-	-	-	51.2
2017	**6 VI**	6	35	67	-
		12	45	71	-
	11 VII	6	30	60	-
		12	42	70	-
	17 VIII	6	31	55	-
		12	40	65	-

CONCLUSIONS

At the beginning of the research, the highest participation in the weed spectrum was the *Phragmites*.

The application for weed control treatments had reduced the number of each species of weeds compared to untreated control, the reduction was proportional to the type treatments applied. Yields ranged from 3,200 kg/ha in case of untrated control up to 8,600 kg/ha in case of two hoeing, second hoeing at stage of corn 8 leaves, the best results were recorded for the first 3 places V_3 (8,600 kg/ha), V_7 (8,450 kg/ha), V_6 (8,100 kg/ha).

Corn yields has a significant increase by application of suitable methods of weed control.

Applying glyphosate, on flood protection dams, to control common reed, has better results if the treatment was applied earlier, during a vegetation period and with a higher dose of herbicide.

The effect of the common reed control treatments by applying the glyphosate herbicide at different doses during the vegetation period is more noticeable after 60 days than after 30 days.

The use of burning or cutting of common reed plants, in November, has little influence on the development of *Phragmites australis* plants the following year.

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Table 2

Influence of different methods of weeds control

Variants	*Phragmites australis*	*Sorghum halepense*	**Perennial monocotyledonous**	*Setaria spp.*	*Echinochloa crus-galli*	**Annual monocotyledonous**	*Xanthium strumarium*	*Chenopodium album*	*Sinapis arvensis*	*Galinsoga parviflora*	**Annual dicotyledonous**	*Convolvulus arvensis*	*Cirsium arvense*	**Perennial dicotyledonous**	**Total**
Results on structure of weeds in maize crop after 2 weeks from corn emergence															
V1	13.9	6.2	**20.2**	21.6	15.3	**36.9**	4.0	4.5	2.6	3.4	**14.5**	1.7	2.0	3.7	**75.3**
V2	0.4	0.1	**0.5**	0.2	0.2	**0.4**	0.2	0.0	0.0	0.0	**0.2**	0.4	0.2	0.6	**1.7**
V3	0.4	0.2	**0.6**	0.2	0.1	**0.3**	0.0	0.0	0.0	0.0	**0.0**	0.0	0.0	0.0	**0.9**
V4	1.2	0.2	**1.4**	0.2	0.2	**0.4**	0.1	0.0	0.0	0.0	**0.1**	0.0	0.0	0.0	**1.9**
V5	0.4	0.1	**0.5**	0.0	0.0	**0.0**	0.0	0.0	0.0	0.0	**0.0**	0.0	0.0	0.0	**0.5**
V6	0.4	0.0	**0.4**	0.0	0.0	**0.0**	0.0	0.0	0.0	0.0	**0.0**	0.0	0.0	0.0	**0.4**
V7	0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.0	0.0	0.0	0.0	**0.0**	0.0	0.0	0.0	**0.0**
V8	0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.0	0.0	0.0	0.0	**0.0**	0.0	0.0	0.0	**0.0**
V9	0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.0	0.0	0.0	0.0	**0.0**	0.0	0.0	0.0	**0.0**
V10	1.8	0.4	**2.2**	0.0	0.0	**0.0**	3.8	4.4	2.6	3.2	**14.0**	1.8	2.0	3.8	**20.0**
Results on structure of weeds in maize crop, numerical method at corn harvest															
V1	43.1	19.4	***62.5***	66.9	47.5	***114.5***	12.3	14.1	7.9	10.6	***44.9***	5.3	6.2	***11.4***	**233.3**
V2	8.4	4.2	***12.6***	1.1	0.6	***1.7***	0.6	0.0	0.0	0.4	***1.0***	1.2	1.4	***2.6***	**17.9**
V3	1.4	0.6	***2.0***	0.2	0.2	***0.4***	0.1	0.0	0.1	0.2	***0.4***	0.8	0.6	***1.4***	**4.2**
V4	3.2	0.2	***3.4***	0.0	0.1	***0.1***	0.1	0.0	0.0	0.0	***0.1***	0.2	0.2	***0.4***	**4.0**
V5	1.2	0.2	***1.4***	0.2	0.4	***0.6***	1.2	0.8	0.0	1.0	***3.0***	1.6	1.8	***3.4***	**8.4**
V6	0.8	0.0	***0.8***	0.1	0.1	***0.2***	0.4	0.0	0.0	0.0	***0.4***	0.4	4.0	***4.4***	**5.8**
V7	0.2	0.1	***0.3***	0.0	0.0	***0.0***	0.0	0.0	0.0	0.0	***0.0***	0.0	0.2	***0.2***	**0.5**
V8	2.4	0.2	***2.6***	0.0	0.0	***0.0***	0.0	0.0	0.0	0.0	***0.0***	0.0	0.0	***0.0***	**2.6**
V9	3.8	0.2	***4.0***	0.0	0.0	***0.0***	0.0	0.0	0.0	0.0	***0.0***	0.0	0.0	***0.0***	**4.0**
V10	12.2	0.0	***12.2***	0.0	0.0	***0.0***	12.2	13.8	7.8	10.6	***44.4***	5.0	6.2	***11.2***	**67,8**
Weeds biomass, gravimetric method, at harvest															
V1	1518.5	40.7	***1559.2***	40.1	38.0	***78.2***	1134.0	591.6	245.6	116.2	***2087.4***	11.6	480.7	***492.3***	**4217.1**
V2	295.7	8.8	***304.5***	0.7	0.5	***1.1***	55.2	0.0	0.0	4.4	***59.6***	2.6	109.2	***111.8***	**477.1**
V3	49.3	1.3	***50.5***	0.1	0.2	***0.3***	9.2	0.0	3.1	2.2	***14.5***	1.8	46.8	***48.6***	**113.9**
V4	112.6	0.4	***113.1***	0.0	0.1	***0.1***	9.2	0.0	0.0	0.0	***9.2***	0.4	15.6	***16.0***	**138.4**
V5	42.2	0.4	***42.7***	0.1	0.3	***0.4***	110.4	33.6	0.0	11.0	***155.0***	3.5	140.4	***143.9***	**342.0**
V6	28.2	0.0	***28.2***	0.1	0.1	***0.1***	36.8	0.0	0.0	0.0	***36.8***	0.9	312.0	***312.9***	**378.0**
V7	7.0	0.2	***7.3***	0.0	0.0	***0.0***	0.0	0.0	0.0	0.0	***0.0***	0.0	15.6	***15.6***	**22.9**
V8	84.5	0.4	***84.9***	0.0	0.0	***0.0***	0.0	0.0	0.0	0.0	***0.0***	0.0	0.0	***0.0***	**84.9**
V9	133.8	0.4	***134.2***	0.0	0.0	***0.0***	0.0	0.0	0.0	0.0	***0.0***	0.0	0.0	***0.0***	**134.2**
V10	429.4	0.0	***429.4***	0.0	0.0	***0.0***	1122.4	579.6	241.8	116.6	***2060.4***	11.0	483.6	***494.6***	**2984.4**
Degree of weed control, gravimetric method, at harvest															
V1	0.0	0.0	**0.0**	0.0	0.0	**0.0**	0.0	0.0	0.0	0.0	**0.0**	0.0	0.0	0.0	**0.0**
V2	80.5	78.3	**80.5**	98.4	98.7	**98.5**	95.1	100.0	100.0	96.2	**97.1**	77.3	77.3	77.3	**88.7**
V3	96.8	96.9	**96.8**	99.7	99.6	**99.6**	99.2	100.0	98.7	98.1	**99.3**	84.9	90.3	90.1	**97.3**
V4	92.6	99.0	**92.7**	100.0	99.8	**99.9**	99.2	100.0	100.0	100.0	**99.6**	96.2	96.8	96.7	**96.7**
V5	97.2	99.0	**97.3**	99.7	99.2	**99.4**	90.3	94.3	100.0	90.5	**92.6**	69.7	70.8	70.8	**91.9**
V6	98.1	100.0	**98.2**	99.9	99.8	**99.8**	96.8	100.0	100.0	100.0	**98.2**	92.4	35.1	36.4	**91.0**
V7	99.5	99.5	**99.5**	100.0	100.0	**100.0**	100.0	100.0	100.0	100.0	**100.0**	100.0	96.8	96.8	**99.5**
V8	94.4	99.0	**94.6**	100.0	100.0	**100.0**	100.0	100.0	100.0	100.0	**100.0**	100.0	100.0	100.0	**98.0**
V9	91.2	99.0	**91.4**	100.0	100.0	**100.0**	100.0	100.0	100.0	100.0	**100.0**	100.0	100.0	100.0	**96.8**
V10	71.7	100.0	**72.5**	100.0	100.0	100.0	1.0	2.0	1.6	0.0	**1.3**	5.3	0.0	0.0	**29.2**