SOUTH AFRICAN SUGAR INDUSTRY AGRONOMISTS' ASSOCIATION

3300/42 BAYLETON SETT DIP FOR SMUT CONTROL

Catalogue: 1195

Object: To evaluate the effectiveness of Bayleton (triadimefon) in controlling smut in inoculated seedcane.

This crop: Plant Age: 11,9 months (6.9.78 to 3.9.79)

Location: RSA Experiment Station, Kudu Block, H10-11

Soil type: PE.1 sandy clay loam derived from gneiss

Design: 2 x 2 factorial, 4 replications

Variety/Spacing: Nco 376 in 1,5 m rows

Fertiliser:

kg/ha	N	P_2O_5	K_2O
Plant	40	100	60
Top-dressed	140	-	-

Rainfall: 704 mm Irrigation: 880 mm

Treatments:

A. Inoculated setts, dipped in Bayleton
B. Inoculated setts, not dipped
C. Un-inoculated setts, dipped in Aretan and Bayleton
D. Un-inoculated setts, dipped in Aretan only.

Conduct:

(a) Three guard rows of variety N 52/219 (immune to smut) were planted to act as a smut-free barrier between plots

(b) The concentration of the Bayleton dip was 0,025% a.i. using a 25% E.C. formulation in cold water

(c) Dipping time was approximately one minute

(d) Inoculation was effected by dipping in a fresh smut spore suspension (1 smut whip/litre) immediately before planting.

.../RESULTS

RESULTS:

Relevant data are presented in the following table:

Treatments	Yield t/ha	ERC% cane	TERC per ha	Stalks/ha x 10^{-3}	Smut whips/ha
Inoc. + Bayleton	158,64	11,37	18,07	147,1	540
Inoc. no Bayleton	141,72	11,25	15,82	140,0	73 079
Uninoc. + Bayleton	170,36	11,73	19,96	155,3	79
Uninoc. no Bayleton	166,64	11,40	18,96	151,0	762
L.S.D. P=0,05	N.S.	N.S.	2,31	N.S.	6 286
P=0,01	N.S.	N.S.	N.S.	N.S.	9 025
Inoculated setts	150,18	11,31	16,95	143,6	36 810
Uninoculated setts	168,50	11,56	19,46	153,1	421
Significance	P=0,05	N.S.	P=0,01	N.S.	P=0,001
Dipped in Bayleton	164,50	11,55	19,02	151,2	310
Not dipped	154,18	11,32	17,39	145,5	36 921
Significance	N.S.	N.S.	N.S.	N.S.	P=0,001
Interaction	N.S.	N.S.	N.S.	N.S.	P=0,001
Trial mean	159,34	11,44	18,20	148,4	18 615
S.E. main effects ±	4,71	0,23	0,51	3,23	1 389
C.V.%	8,35	5,23	7,92	6,15	21,1

(a) Cane yields. Yields were significantly reduced by inoculation of setts, particularly when the seedcane was not dipped in Bayleton. The effect of Bayleton was to increase the yield by ± 17 tc/ha in the case of inoculated setts, but to cause a marginal and non-significant increase when uninoculated seedcane was dipped.

(b) ERC% cane. None of the treatments had any significant effect on ERC% cane. Other quality effects were as follows :-

Treatment	Brix % cane	Pol % cane	Purity % cane	Fibre % cane
Inoculated setts	14,6	12,88	88,1	12,7
Uninoculated setts	14,7	13,08	89,2	13,1
Dipped in Bayleton	14,7	13,06	89,2	13,0
Not dipped	14,6	12,89	88,2	12,8
Means	14,6	12,98	88,7	12,9

Inoculation caused slight reductions in pol, purity, and fibre, whereas Bayelton dipping increased these factors marginally.

(c) TERC/ha. Due to the lack of differences between treatments in ERC% cane, sugar yield responses followed the same trends as cane yield responses. The effect of seedcane inoculation was to cause a highly significant reduction in TERC/ha of 2,51 t/ha. The Bayleton dip caused a significant increase

in the yield from inoculated seedcane, but it had less effect on the yield from uninoculated setts.

(d) Stalk counts. None of the treatments had any significant effect on stalk populations, although there was evidence of stalk counts being reduced by seedcane inoculation.

(e) Smut incidence. Seedcane inoculation caused an extremely high level of smut infection in the treatment which was not treated with Bayleton, as compared with the level of natural infection in the uninoculated treatment (73 079 and 762 whips/ha respectively). Dipping inoculated seedcane in Bayleton reduced smut incidence by over 99%, whereas under normal conditions infection was reduced by 90% as a result of the Bayleton dip.

CONCLUSIONS.

The inoculation treatments were included to simulate conditions of severe soil infection, and results showed that a short-duration cold-water Bayleton dip was successful in reducing smut incidence under such conditions. The trial will be ratooned to study residual carry-over effects, and a new trial is to be initiated to determine whether Bayleton is equally as effective in controlling systemic smut infection in seedcane.

KEC/September, 1979.

SOUTH AFRICAN SUGAR INDUSTRY

AGRONOMISTS' ASSOCIATION

3300/42 BAYLETON SETT DIP FOR SMUT CONTROL

Catalogue: 1195

Object : To evaluate the effectiveness of Bayleton (triadimefon) in controlling smut in seedcane.

This crop : First ratoon **Age :** 12,0 months (3.9.79 to 5.9.80)

Location : ZSA Experiment Station, Kudu Block H10-11

Soil type : PE.1 sandy clay loam derived from gneiss

Design : 2 x 2 factorial replications

Variety/spacing : NCo 376 in 1,5m rows

Fertiliser (kg/ha) :

	N	P_2O_5	K_2O
P	180	100	60
1R	180	100	60

Rainfall : 776 mm **Irrigation :** 968 mm

Treatments :

A. Inoculated setts, dipped in Bayleton
B. Inoculated setts, not dipped
C. Uninoculated setts, dipped in Aretan and Bayleton
D. Uninoculated setts, dipped in Aretan only

Conduct :

(a) Nett plots were separated by three guard rows of N 52/219 to act as a smut-free barrier between plots.

(b) Bayleton 25% E.C. formulation was used at a concentration of 0,025 % (250 ppm) a.i.

(c) Dipping time was approximately one minute.

(d) Inoculation was effected by dipping in a fresh smut spore suspension (1 smut whip/litre) immediately before planting.

RESULTS :

(a) **Smut incidence.** Smut records from the plant and first ratoon crops were as follows :

Treatments	Smut whips/ha	
	P	1R
Inoculated + Bayleton	540	29 808
Inoculated - no Bayleton	73 079	272 949
Un-inoculated + Bayleton	79	31 122
Un-inoculated - no Bayleton	762	24 808
Trial mean	18 615	89 671

2/. ...

In the plant crop, seedcane inoculation caused a high level of smut infection in the treatment which was not dipped in Bayleton, as compared with the level of natural infection in the uninoculated treatment (73 079 and 762 whips/ha respectively). Dipping inoculated seedcane in Bayleton reduced smut incidence by over 99%, whereas under normal conditions infection was reduced by 90% as a result of the Bayleton dip.

Smut whips were not rogued in any of the treatments, with the result that the increase in smut incidence in the first ratoon was greater than would normally be experienced. Whip counts in the first ratoon showed an excessively high level of infection in the treatment grown from untreated uninoculated seedcane, but smut incidence was similar in the other three treatments.

(b) Yield and quality effects. Relevant harvest data are shown in the attached table. Treatment of normal uninoculated seedcane with Bayleton had no significant effect on cane yields in either of the two crops, but treatment of inoculated setts caused yield gains of 12% and 35% in the plant and first ratoon crops respectively in relation to the untreated controls with high levels of smut incidence.

None of the treatments had any significant effect on ERC% cane, so that TERC/ha responses were similar to those recorded for cane yields, and the percentage responses to treatment of inoculated setts were of the same magnitude.

(c) Stalk counts. The high level of smut infection in the treatment grown from uninoculated seedcane had a marked effect on millable stalk populations. In the first ratoon, stalk counts were 184 000 and 157 000 per ha for the Bayleton and no-Bayleton treatments respectively.

KEC/Sept. '80.
rw.

3300/42 BAYLETON SETT DIP FOR SMUT CONTROL

YIELD DATA, PLANT AND FIRST RATOON

Treatments	YIELD t/ha		ERC % CANE		TERC/ha	
	P	1R	P	1R	P	1R
Inoculated + Bayleton	158,64	187,11	11,37	13,18	18,07	24,60
" no Bayleton	141,72	138,83	11,25	13,42	15,82	18,57
Uninoculated + Bayleton	170,36	190,13	11,73	13,86	19,96	26,34
" no Bayleton	166,64	189,58	11,40	13,60	18,96	25,73
L.S.D. P = 0,05	N.S.	22,47	N.S.	N.S.	2,31	2,02
P = 0,01	N.S.	32,29	N.S.	N.S.	N.S.	2,91
Inoculated seedcane	150,18	162,97	11,31	13,30	16,95	21,59
Uninoculated seedcane	168,50	189,85	11,56	13,73	19,46	26,04
Significance	*	**	N.S.	N.S.	**	***
Dipped in Bayleton	164,50	188,62	11,55	13,52	19,02	25,48
Not dipped	154,18	164,20	11,32	13,51	17,39	22,15
Significance	N.S.	**	N.S.	N.S.	N.S.	***
Interaction	N.S.	**	N.S.	N.S.	N.S.	**
Trial mean	159,34	176,41	11,44	13,51	18,20	23,81
S.E. mean ±	4,71	7,02	0,23	0,32	0,51	0,63
C.V. %	8,35	11,26	5,23	6,63	7,92	7,52

SOUTH AFRICAN SUGAR INDUSTRY

AGRONOMISTS' ASSOCIATION

Title: BAYLETON SETT DIP FOR SMUT CONTROL 3300/42

TERMINAL REPORT

Cat No.: 1195

Object : To evaluate the effectiveness of Bayleton (triadimefon) in controlling smut in sugarcane.

Planted : 6th September, 1978

Terminated : 16th September, 1981, after the second ratoon crop

Harvest dates and Ages :

	Harvest	Age
P	3.9.79	11,9 months
1R	5.9.80	12,1 "
2R	16.9.81	12,4 "

Location : ZSA Experiment Station, Kudu Block H 10-11

Soil type : PE.1 sandy clay loam derived from gneiss

Design : 2 x 2 factorial, 4 replications

Variety/spacing : NCo 376 in 1,5m rows

Fertiliser (kg/ha) :

	N	P_2O_5	K_2O
P	180	100	60
1R	180	100	60
2R	180	100	60

Irrigation & Rainfall :

	Irrig. (mm)	Rain (mm)
P	880	704
1R	968	776
2R	836	909

Treatments :

A. Inoculated setts, dipped in Bayleton
B. Inoculated setts, not dipped
C. Uninoculated setts, dipped in Aretan and Bayleton
D. Uninoculated setts, dipped Aretan only

Conduct :

(a) Nett plots were separated by three guard rows of N 52/219 to act as a smut-free barrier between plots.
(b) Bayleton 25% E.C. formulation was used at a concentration of 0,025% (250 p.p.m.) a.i.
(c) Dipping time was approximately one minute
(d) Inoculation was effected by dipping in a fresh smut spore suspension (1 smut whip/litre) immediately before planting.

2./ RESULTS ....

RESULTS

It was originally intended to measure treatment effects in the plant crop only, but because of large treatment differences the trial was carried through to the second ratoon to study residual effects.

(a) Smut incidence. Smut records from the three crops from plant to second ratoon inclusive were as follows :-

Treatments	Smut whips/ha		
	P	1R	2R
Inoculated + Bayleton	944	29 808	48 682
Inoculated - no Bayleton	127 889	272 949	121 699
Uninoculated + Bayleton	139	31 122	55 064
Uninoculated - no Bayleton	1 333	24 808	39 071
Trial mean	32 576	89 671	66 129

In the plant crop seedcane inoculation caused an extremely high level of smut infection in the treatment which was not treated with Bayleton, as compared with the level of natural infection in the uninoculated treatment (127 889 and 1 333 smut whips/ha respectively). Dipping inoculated seedcane in Bayleton reduced smut incidence by over 99%, whereas under normal conditions infection was reduced by 90% as a result of the Bayleton dip.

Smut incidence in the ratoons was considerably greater than would normally be experienced, because of high inoculum pressure from the inoculated treatment which was not dipped in Bayleton. Smut levels in the other treatments were similar in the ratoons, although there was evidence of greater smut incidence in the uninoculated plots which had been treated with Bayleton.

(b) Cane yields. In the plant crop yields were significantly reduced by inoculation of setts, particularly when the seedcane was not dipped in Bayleton. The effect of Bayleton was to increase the yield by ± 17 tc/ha in the case of inoculated setts, but to cause a marginal and non-significant increase when uninoculated seedcane was dipped.

Treatment of normal uninoculated seedcane with Bayleton had no significant effect on cane yields in either of the two ratoon crops, but treatment of inoculated setts continued to show residual yield gains through to the second ratoon. When averaged over the 3 crop cycles Bayleton treatment accounted for a 19% yield increase in cane grown from inoculated seedcane. Treatment differences were greatest in the first ratoon, and although they were still evident in the second ratoon they were no longer significant.

(c) ERC% cane. None of the treatments had any effect on ERC% cane in any of the 3 harvests.

3./ (d) .....

(d) TERC/ha. Due to lack of differences between treatments in ERC% cane, sugar yield responses followed the same trends as cane yield responses. When meaned over 3 crop cycles, seedcane inoculation caused a reduction of 2,5 t/ha ERC. The Bayleton dip caused a mean benefit 2,1 t/ha ERC, mainly because of its effect on inoculated seedcane where the yield gain was 3,6 t/ha. treatment differences were still evident in the second ratoon, but were greater and most significant in the first ratoon.

(e) Stalk counts. Millable stalk counts recorded at the three harvests were as follows :-

Treatments	Stalks/ha x 10^{-3}			
	P	1R	2R	Means P - 2R
A. Inoculated + Bayleton	147,1	183,3	178,5	169,6
B. Inoculated no Bayleton	140,0	131,1	154,7	141,9
C. Uninoculated + Bayleton	155,3	179,5	175,2	170,0
D. Uninoculated no Bayleton	151,0	187,8	179,2	172,7
Means	148,4	170,4	171,9	163,6

Severe smut infection in treatment B caused a reduction in stalk population which was most pronounced in the first ratoon. It was apparent that this was the main reason for yield loss, as there was a strong relationship between yield and stalk count.

CONCLUSIONS

The inoculation treatments were included to simulate conditions of severe soil infection, and plant crop results showed that a short-duration cold-water dip was successful in reducing smut incidence under such conditions. Results also showed that high smut levels were capable of reducing ERC yields by as much as 20%.

Ratoon results showed that smut suppression by Bayleton was of short duration and that it was not carried through to the ratoons. High smut incidence in the plant crop, however, was sustained in the ratoons, thus showing the importance of good smut control at an early stage.

The effect of severe smut incidence on yields was evident in all three crops, with losses due primarily to reduced stalk populations.

KEC/Oct. '81.
rw

3300/42 BAYLETON SETT DIP FOR SMUT CONTROL

YIELD DATA - PLANT TO SECOND RATOON

Treatments	CANE YIELD t/ha				ERC % CANE				TERC/ha			
	P	1R	2R	Means P - 2R	P	1R	2R	Means P - 2R	P	1R	2R	Means P - 2R
Inoculated + Bayleton	158,64	187,11	170,87	172,21	11,37	13,18	13,44	12,66	18,07	24,60	22,97	21,88
" No Bayleton	141,72	138,83	152,30	144,28	11,25	13,42	13,44	12,70	15,82	18,57	20,40	18,26
Uninoculated + Bayleton	170,36	190,13	168,58	176,36	11,73	13,86	13,25	12,95	19,96	26,34	22,32	22,87
" no Bayleton	166,64	189,58	166,98	174,40	11,40	13,60	13,33	12,78	18,96	25,73	22,25	22,31
L.S.D. P=0,05	N.S.	22,47	N.S.	-	N.S.	N.S.	N.S.	-	2,31	2,02	N.S.	-
P=0,01	N.S.	32,29	N.S.	-	N.S.	N.S.	N.S.	-	N.S.	2,91	N.S.	-
Inoculated seedcane	150,18	162,97	161,58	158,24	11,31	13,30	13,44	12,68	16,95	21,59	21,68	20,07
Uninoculated seedcane	168,50	189,85	167,78	175,38	11,56	13,73	13,29	12,86	19,46	26,04	22,28	22,59
Significance	*	**	N.S.	-	N.S.	N.S.	N.S.	-	**	***	N.S.	-
Dipped in Bayleton	164,50	188,62	169,72	174,28	11,55	13,52	13,35	12,81	19,02	25,48	22,64	22,38
Not treated	154,18	164,20	159,64	159,34	11,32	13,51	13,38	12,74	17,39	22,15	21,32	20,29
Significance	N.S.	**	N.S.	-	N.S.	N.S.	N.S.	-	N.S.	***	N.S.	-
Interaction	N.S.	**	N.S.	-	N.S.	N.S.	N.S.	-	N.S.	**	N.S.	-
Trial mean	159,34	176,41	164,68	166,81	11,44	13,51	13,36	12,77	18,20	23,81	21,98	21,33
S.E. mean ±	4,71	7,02	7,18	-	0,23	0,32	0,16	-	0,51	0,63	0,75	-
C.V.%	8,35	11,26	12,34	-	5,23	6,63	3,41	-	7,92	7,52	7,91	-

SOUTH AFRICAN SUGAR INDUSTRY

AGRONOMISTS' ASSOCIATION

Title: BAYLETON SETT DIP FOR SMUT CONTROL 3300/42

TERMINAL REPORT

Cat No.: 1195

Object : To evaluate the effectiveness of Bayleton (triadimefon) in controlling smut in sugarcane.

Planted : 6th September, 1978

Terminated : 16th September, 1981, after the second ratoon crop

Harvest dates and Ages :

	Harvest	Age
P	3.9.79	11,9 months
1R	5.9.80	12,1 "
2R	16.9.81	12,4 "

Location : ZSA Experiment Station, Kudu Block H 10-11

Soil type : PE.1 sandy clay loam derived from gneiss

Design : 2 x 2 factorial, 4 replications

Variety/spacing : NCo 376 in 1,5m rows

Fertiliser (kg/ha) :

	N	P_2O_5	K_2O
P	180	100	60
1R	180	100	60
2R	180	100	60

Irrigation & Rainfall :

	Irrig. (mm)	Rain (mm)
P	880	704
1R	968	776
2R	836	909

Treatments :

A. Inoculated setts, dipped in Bayleton
B. Inoculated setts, not dipped
C. Uninoculated setts, dipped in Aretan and Bayleton
D. Uninoculated setts, dipped Aretan only

Conduct :

(a) Nett plots were separated by three guard rows of N 52/219 to act as a smut-free barrier between plots.
(b) Bayleton 25% E.C. formulation was used at a concentration of 0,025% (250 p.p.m.) a.i.
(c) Dipping time was approximately one minute
(d) Inoculation was effected by dipping in a fresh smut spore suspension (1 smut whip/litre) immediately before planting.

2./ RESULTS ....

RESULTS

It was originally intended to measure treatment effects in the plant crop only, but because of large treatment differences the trial was carried through to the second ratoon to study residual effects.

(a) Smut incidence: Smut records from the three crops from plant to second ratoon inclusive were as follows :-

Treatments	Smut whips/ha		
	P	1R	2R
Inoculated + Bayleton	944	29 808	48 682
Inoculated - no Bayleton	127 889	272 949	121 699
Uninoculated + Bayleton	139	31 122	55 064
Uninoculated - no Bayleton	1 333	24 808	39 071
Trial mean	32 576	89 671	66 129

In the plant crop seedcane inoculation caused an extremely high level of smut infection in the treatment which was not treated with Bayleton, as compared with the level of natural infection in the uninoculated treatment (127 889 and 1 333 smut whips/ha respectively). Dipping inoculated seedcane in Bayleton reduced smut incidence by over 99%, whereas under normal conditions infection was reduced by 90% as a result of the Bayleton dip.

Smut incidence in the ratoons was considerably greater than would normally be experienced, because of high inoculum pressure from the inoculated treatment which was not dipped in Bayleton. Smut levels in the other treatments were similar in the ratoons, although there was evidence of greater smut incidence in the uninoculated plots which had been treated with Bayleton.

(b) Cane yields. In the plant crop yields were significantly reduced by inoculation of setts, particularly when the seedcane was not dipped in Bayleton. The effect of Bayleton was to increase the yield by ± 17 tc/ha in the case of inoculated setts, but to cause a marginal and non-significant increase when uninoculated seedcane was dipped.

Treatment of normal uninoculated seedcane with Bayleton had no significant effect on cane yields in either of the two ratoon crops, but treatment of inoculated setts continued to show residual yield gains through to the second ratoon. When averaged over the 3 crop cycles Bayleton treatment accounted for a 19% yield increase in cane grown from inoculated seedcane. Treatment differences were greatest in the first ratoon, and although they were still evident in the second ratoon they were no longer significant.

(c) ERC% cane. None of the treatments had any effect on ERC% cane in any of the 3 harvests.

3./ (d) .....

(d) TERC/ha. Due to lack of differences between treatments in ERC% cane, sugar yield responses followed the same trends as cane yield responses. When meaned over 3 crop cycles, seedcane inoculation caused a reduction of 2,5 t/ha ERC. The Bayleton dip caused a mean benefit 2,1 t/ha ERC, mainly because of its effect on inoculated seedcane where the yield gain was 3,6 t/ha. treatment differences were still evident in the second ratoon, but were greater and most significant in the first ratoon.

(e) Stalk counts. Millable stalk counts recorded at the three harvests were as follows :-

Treatments	Stalks/ha x 10^{-3}			
	P	1R	2R	Means P - 2R
A. Inoculated + Bayleton	147,1	183,3	178,5	169,6
B. Inoculated no Bayleton	140,0	131,1	154,7	141,9
C. Uninoculated + Bayleton	155,3	179,5	175,2	170,0
D. Uninoculated no Bayleton	151,0	187,8	179,2	172,7
Means	148,4	170,4	171,9	163,6

Severe smut infection in treatment B caused a reduction in stalk population which was most pronounced in the first ratoon. It was apparent that this was the main reason for yield loss, as there was a strong relationship between yield and stalk count.

CONCLUSIONS

The inoculation treatments were included to simulate conditions of severe soil infection, and plant crop results showed that a short-duration cold-water dip was successful in reducing smut incidence under such conditions. Results also showed that high smut levels were capable of reducing TERC yields by as much as 20%.

Ratoon results showed that smut suppression by Bayleton was of short duration and that it was not carried through to the ratoons. High smut incidence in the plant crop, however, was sustained in the ratoons, thus showing the importance of good smut control at an early stage.

The effect of severe smut incidence on yields was evident in all three crops, with losses due primarily to reduced stalk populations.

KEC/Oct. '81.
rw

3300/42 BAYLETON SETT DIP FOR SMUT CONTROL

YIELD DATA - PLANT TO SECOND RATOON

Treatments	CANE YIELD t/ha				TERC % CANE				TERC/ha			
	P	1R	2R	Means P - 2R	P	1R	2R	Means P - 2R	P	1R	2R	Means P - 2R
Inoculated + Bayleton	158,64	187,11	170,87	172,21	11,37	13,18	13,44	12,66	18,07	24,60	22,97	21,88
" No Bayleton	141,72	138,83	152,30	144,28	11,25	13,42	13,44	12,70	15,82	18,57	20,40	18,26
Uninoculated + Bayleton	170,36	190,13	168,58	176,36	11,73	13,86	13,25	12,95	19,96	26,34	22,32	22,87
" no Bayleton	166,64	189,58	166,98	174,40	11,40	13,60	13,33	12,78	18,96	25,73	22,25	22,31
L.S.D. P=0,05	N.S.	22,47	N.S.	-	N.S.	N.S.	N.S.	-	2,31	2,02	N.S.	-
P=0,01	N.S.	32,29	N.S.	-	N.S.	N.S.	N.S.	-	N.S.	2,91	N.S.	-
Inoculated seedcane	150,18	162,97	161,58	158,24	11,31	13,30	13,44	12,68	16,95	21,59	21,68	20,07
Uninoculated seedcane	168,50	189,85	167,78	175,38	11,56	13,73	13,29	12,86	19,46	26,04	22,28	22,59
Significance	*	**	N.S.	-	N.S.	N.S.	N.S.	-	**	***	N.S.	-
Dipped in Bayleton	164,50	188,62	169,72	174,28	11,55	13,52	13,35	12,81	19,02	25,48	22,64	22,38
Not treated	154,18	164,20	159,64	159,34	11,32	13,51	13,38	12,74	17,39	22,15	21,32	20,29
Significance	N.S.	**	N.S.	-	N.S.	N.S.	N.S.	-	N.S.	***	N.S.	-
Interaction	N.S.	**	N.S.	-	N.S.	N.S.	N.S.	-	N.S.	**	N.S.	-
Trial mean	159,34	176,41	164,68	166,81	11,44	13,51	13,36	12,77	18,20	23,81	21,98	21,33
S.E. mean ±	4,71	7,02	7,18	-	0,23	0,32	0,16	-	0,51	0,63	0,75	-
C.V.%	8,35	11,26	12,34	-	5,23	6,63	3,41	-	7,92	7,52	7,91	-