

DIRECTION
POUR LE DÉVELOPPEMENT
DE L'ÉCONOMIE RURALE
SERVICE DE LA RECHERCHE
DE LA FORMATION
ET DE LA DIFFUSION

CENTRE DE RECHERCHE ET
D'EXPÉRIMENTATION AGRONOMIQUES
DE NESSADIOU

L. COLLET
C. BOUCARON
F. GOURDON

INSTITUT FRANÇAIS
DE RECHERCHE SCIENTIFIQUE
POUR LE DÉVELOPPEMENT
EN COOPÉRATION
(ORSTOM)

CENTRE DE NOUMÉA

UR E9

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B. BONZON
P. ANDRE
Y. HUELVAN

INFLUENCE DE DIFFÉRENTES DOSES DE CROUTE CALCAIRE SUR UNE CULTURE DE MAÏS GRAIN SUR SOL SODIQUE ACIDE

Annexe 85 - 2

RESULTATS DES OBSERVATIONS ET DES MESURES

REPUBLIQUE FRANCAISE
NOUVELLE-CALEDONIE
ET DEPENDANCES.

DIRECTION
POUR LE DEVELOPPEMENT
DE L'ECONOMIE RURALE.

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INFLUENCE DE DIFFERENTES DOSES DE CROUTE CALCAIRE
SUR UNE CULTURE DE MAIS GRAIN
SUR SOL SODIQUE ACIDE.

ANNEXE 85-2.

RESULTATS DES OBSERVATIONS ET DES MESURES.

Deuxième convention Territoire-ORSTOM pour l'étude des effets des amendements calcaïques
sur les sols cultivables de Nouvelle-Calédonie.

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1.

PARAMETRES OBSERVES.

INFLUENCE DE DIFFERENTES DOSES DE CROUTE CALCAIRE SUR UNE CULTURE DE MAIS GRAIN SUR UN SOL SODIQUE ACIDE

PARAMETRES OBSERVES EN 1985.

PARAMETRES (sigles)	UNITES	DEFINITIONS	OBSERVATIONS - FORMULES.
DL	nbre/m ²	Densité de peuplement à la levée	
DR	"	" récolte	
Hj	cm	Hauteur des plants au jème jour	
Hj'	"	" j'ème jour	
Vj-j'	cm/j	Vitesse de croissance en hauteur entre les jème et j'ème jour	$Vj, j' = (Hj' - Hj) / (j' - j)$
PGR	g/plt	Poids de grain sec par plant sur les pieds de référence	
PGU	"	Poids de grain sec par plant sur les pieds utiles restants	
PGT	"	Poids de grain sec par plant sur la parcelle utile	
QGR	g/m ²	Rendement en grain sec estimé sur les pieds de référence	$QGR = PGR \times DR$
QGT	"	Rendement en grain sec estimé sur la parcelle utile	$QGT = PGT \times DR$
PRR	g/plt	Poids de rachis sec par plant sur les pieds de référence	
NET	nbre/plt	Nombre d'épis par plant	
GRU	g	Poids de 1000 grains	
PTFR	g/plt	Poids de tiges et feuilles sèches par plant de référence	
PAR	g/plt	Poids partiel des parties aériennes des plants de référence	$PAR = PTFR + PGR$
PART	g/plt	Poids total des parties aériennes des plants de référence	$PART = PAR + PRR$
TXGR	%	Teneur en X dans les grains des pieds de référence	$X = N, P, K, Ca, Mg, Na, Si, Cendres(Crds)$
TXTF	%	Teneur en X dans les tiges à feuilles des pieds de référence	

2.

RECAPITULATIF DES ANALYSES DE VARIANCE.

1 - INFLUENCE DE DIFFERENTES DOSES DE CROUTE CALCAIRE SUR UNE CULTURE DE MAIS SUR SOL SODIQUE ACIDE.
RESULTATS DU CINQUIEME CYCLE CULTURAL (1985).

PARAMETRES Sigles	Unités	$\bar{X}$	CV ₁	CV ₂	CV ₃	pte	Plantes			pte	Doses d'amendement calcaique de surface (t/ha)				pte	Doses d'amendement calcaique de profondeur (t/ha)	
							1	2	3		0	2	4	6		0	2
H55	cm	23,95	43,38	18,60	10,31	0,004	24,03	23,79	24,03	0,993	23,47	21,14	24,02	27,18	0,877	23,49	24,41
H62	cm	47,72	54,60	21,59	11,24	0,037	47,30	48,92	46,95	0,993	47,21	40,87	47,81	54,99	0,904	46,64	48,81
H69	cm	82,02	44,86	26,26	8,87	0,044	80,77	82,77	82,52	0,835	81,54	72,54	81,79	92,20	0,948	80,29	83,75
H76	cm	142,39	34,49	15,50	7,62	0,072	141,04	145,56	140,56	0,993	138,94	127,98	145,18	157,45	0,862	140,44	144,34
H83	cm	199,79	16,88	12,59	6,29	0,693	198,46	206,48	194,43	0,947	195,11	186,93	205,58	211,53	0,471	198,83	200,75
V55-62	cm/j	3,40	68,69	26,15	14,51	0,117	3,32	3,59	3,27	0,990	3,39	2,82	3,40	3,97	0,864	3,31	3,49
V62-69	cm/j	4,90	32,56	42,43	11,22	0,141	4,78	4,84	5,08	0,293	4,90	4,52	4,85	5,31	0,834	4,81	4,99
V69-76	cm/j	8,62	22,24	26,03	10,56	0,426	8,61	8,97	8,29	0,803	8,20	7,92	9,06	9,32	0,228	8,59	8,66
V76-83	cm/j	8,20	40,45	16,80	17,92	0,383	8,20	8,70	7,70	0,754	8,02	8,42	8,63	7,73	0,413	8,34	8,06
DL	plt/m ²	8,92	16,69	7,74	5,04	0,819	9,44	8,88	8,44	0,986	8,90	8,57	9,00	9,21	0,274	8,89	8,94
DR	plt/m ²	7,03	3,43	2,87	2,78	0,846	7,09	7,04	6,97	0,776	7,02	6,96	7,06	7,09	0,388	7,05	7,01
PGR	g/plt	120,14	7,70	8,30	8,78	0,021	120,28	120,36	119,79	0,995	112,82	119,66	123,30	124,78	0,830	118,47	121,81
PRR	g/plt	20,47	5,58	7,91	7,55	0,668	20,09	20,70	20,63	0,762	19,86	20,87	20,46	20,69	0,410	20,37	20,57
PGU	g/plt	111,86	13,57	6,85	9,10	0,383	113,66	112,30	109,61	0,998	106,47	107,67	114,99	118,30	0,818	110,25	113,47
PGT	g/plt	112,90	12,66	9,60	6,55	0,432	114,49	113,30	110,91	0,998	107,27	109,20	116,03	119,10	0,843	111,29	114,52
QGR	g/m ²	845,04	10,03	9,79	8,75	0,253	852,77	846,81	835,53	0,996	792,14	832,67	870,88	884,46	0,698	835,39	854,69
QGT	g/m ²	793,99	15,01	10,03	6,18	0,662	811,74	796,65	775,58	0,988	753,20	759,72	819,31	843,73	0,852	784,71	803,27
NET	épis/pl	0,97	2,49	2,70	3,00	0,630	0,97	0,96	0,97	0,751	0,96	0,97	0,97	0,97	0,233	0,97	0,97
GRU	g	259,25	3,27	4,52	3,69	0,450	260,16	260,55	257,05	0,932	255,21	257,08	263,93	260,80	0,868	261,11	257,40
PTFR	g/plt	112,00	17,33	19,07	13,36	0,681	107,56	115,32	113,14	0,649	106,58	110,63	117,27	113,53	0,422	113,75	110,25
PAR	g/plt	132,48	14,51	17,03	11,71	0,707	127,64	136,02	133,77	0,657	126,45	131,50	137,73	134,22	0,649	134,13	130,83
PART	g/plt	252,62	8,01	11,83	8,19	0,491	247,92	256,37	253,56	0,955	239,26	251,17	261,02	259,01	0,009	262,60	252,63

1bis - INFLUENCE DE DIFFERENTES DOSES DE CROUTE CALCAIRE SUR UNE CULTURE DE MAIS SUR SOL SODIQUE ACIDE.
RESULTATS DU CINQUIEME CYCLE CULTURAL (1985).

PARAMETRES		$\bar{X}$	CV ₁	CV ₂	CV ₃	pte	Plantes			pte	Doses d'amendement calcique de surface (t/ha)				pte	Doses d'amendement calcique de profondeur (t/ha)	
Sigles	Unités						1	2	3		0	2	4	6		0	2
TNGR	%	1,46	11,14	5,00	4,18	0,161	1,44	1,47	1,47	0,476	1,48	1,44	1,46	1,46	0,829	1,47	1,45
TPGR	%	0,23	13,19	7,53	6,67	0,772	0,24	0,23	0,23	0,970	0,23	0,23	0,23	0,24	0,822	0,23	0,24
TKGR	%	0,36	5,93	9,52	5,16	0,068	0,36	0,36	0,36	0,440	0,36	0,36	0,35	0,36	0,458	0,36	0,36
TMgGR	%	0,11	8,57	4,99	4,72	0,296	0,11	0,11	0,11	0,188	0,11	0,11	0,11	0,11	0,005	0,11	0,11
TCdrsG	%	2,93	12,99	51,10	16,84	0,486	2,93	2,86	2,99	0,438	2,90	2,48	3,03	3,30	0,352	2,87	2,98
TNTF	%	0,75	11,45	16,75	15,27	0,450	0,77	0,73	0,75	0,453	0,73	0,74	0,79	0,75	0,492	0,76	0,74
TPTF	%	0,07	22,52	20,95	22,73	0,207	0,07	0,07	0,07	0,758	0,07	0,07	0,07	0,06	0,766	0,07	0,06
TKTF	%	1,48	9,27	17,02	12,38	0,692	1,44	1,47	1,54	0,074	1,49	1,46	1,48	1,51	0,834	1,45	1,52
TNaTF	%	0,02	10,54	19,24	17,48	0,085	0,02	0,02	0,02	0,925	0,02	0,02	0,02	0,02	0,381	0,02	0,02
TCaTF	%	0,21	39,24	30,13	21,96	0,378	0,22	0,22	0,20	0,475	0,23	0,22	0,21	0,20	0,117	0,21	0,21
TMgTF	%	0,37	5,78	13,08	12,54	0,626	0,38	0,38	0,36	0,115	0,37	0,37	0,38	0,38	0,022	0,37	0,37
TCdrs TF	%	8,53	7,50	12,50	12,10	0,704	8,79	8,35	8,44	0,219	8,64	8,37	8,43	8,66	0,207	8,50	8,56
TSiTF	%	4,49	9,32	18,58	21,09	0,861	4,78	4,32	4,36	0,141	4,55	4,36	4,44	4,59	0,110	4,50	4,47

3.

ANALYSES DE VARIANCE.

PARAMETRE: DL

UNITE: pied/m2

NUMERO: 9

1-DONNEES OBSERVEES

	plante1	plante2	plante3
X 0 0 0	9.330	8.840	7.640
X 0 0 1	9.330	8.840	8.890
X 0 0 2	9.160	8.760	8.930
X 0 1 0	9.070	9.730	6.930
X 0 1 1	8.440	8.310	9.200
X 0 1 2	9.870	9.020	9.870
X 1 0 0	9.470	8.530	6.360
X 1 0 1	9.470	7.420	9.020
X 1 0 2	9.470	9.420	6.980
X 1 1 0	9.290	9.470	6.980
X 1 1 1	9.640	8.310	8.530
X 1 1 2	9.380	9.240	7.290
X 2 0 0	9.780	9.690	8.980
X 2 0 1	9.510	8.930	8.440
X 2 0 2	9.670	9.380	8.130
X 2 1 0	9.870	9.020	8.400
X 2 1 1	8.980	8.220	9.070
X 2 1 2	9.640	8.220	8.000
X 3 0 0	9.870	9.160	8.440
X 3 0 1	8.400	8.710	8.930
X 3 0 2	9.690	9.020	9.600
X 3 1 0	10.040	10.000	9.470
X 3 1 1	9.420	7.780	9.420
X 3 1 2	9.670	8.980	9.110

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X...= 8.92

B) PLANTE

X0= 9.44 (5.82) X1= 8.88 (-0.48) X2= 8.44 (-5.34)

C) DOSE AMENDEMENT

X0= 8.90 (-0.23) X1= 8.57 (-3.90) X2= 9.00 (0.89)
X3= 9.21 (3.24)

D) FACTEUR SUBSIDIAIRE

X0= 8.89 (-0.26) X1= 8.94 (0.26)

E) FACTEUR BLOC

X0= 8.93 (0.15) X1= 8.80 (-1.32) X2= 9.02 (1.17)

F) INTERACTION PLANTE-AMENDEMENT

10.

X00=	9.20 (3.16)	X10=	8.92 (-0.02)	X20=	8.58 (-3.83)
X01=	9.45 (6.00)	X11=	8.73 (-2.09)	X21=	7.53 (-15.60)
X02=	9.58 (7.40)	X12=	8.91 (-0.09)	X22=	8.50 (-4.65)
X03=	9.52 (6.73)	X13=	8.94 (0.26)	X23=	9.16 (2.73)

G) INTERACTION PLANTE-SUBSIDIAIRE

X00=	9.43 (5.75)	X10=	8.89 (-0.30)	X20=	8.36 (-6.24)
X01=	9.44 (5.90)	X11=	8.86 (-0.67)	X21=	8.52 (-4.44)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00=	8.86 (-0.68)	X10=	8.46 (-5.14)	X20=	9.17 (2.82)
X30=	9.09 (1.94)	X01=	8.94 (0.22)	X11=	8.68 (-2.66)
X21=	8.82 (-1.05)	X31=	9.32 (4.54)		

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000=	9.27 (3.98)	X001=	9.13 (2.34)	X010=	9.47 (6.19)
X011=	9.44 (5.81)	X020=	9.66 (8.32)	X021=	9.50 (6.49)
X030=	9.32 (4.51)	X031=	9.72 (8.95)	X100=	8.81 (-1.18)
X101=	9.02 (1.14)	X110=	8.46 (-5.18)	X111=	9.01 (0.99)
X120=	9.33 (4.65)	X121=	8.49 (-4.84)	X130=	8.96 (0.51)
X131=	8.92 (0.02)	X200=	8.49 (-4.84)	X201=	8.67 (-2.82)
X210=	7.45 (-16.43)	X211=	7.60 (-14.78)	X220=	8.52 (-4.50)
X221=	8.49 (-4.80)	X230=	8.99 (0.81)	X231=	9.33 (4.65)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE CHI123= 14.449 CHI12= 4.640 CHI23= 3.756

les variances residuelles des 2 derniers niveaux sont homogenes.

4-ANALYSE DE VARIANCE

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR.GENERALE	0.6469	-	-
VAR.RESIDUEL.			
1er niveau	2.2145	-	-
C.V.1	(16.69)	-	-
2eme niveau	0.4768	-	-
C.V.2	(7.74)	-	-
3eme niveau	0.2017	-	-
C.V.3	(5.04)	-	-
moyenne1,2et3	0.0000	-	-
C.V.M123	(0.00)	-	-
moyenne1,2	0.0000	-	-
C.V.M12	(0.00)	-	-
moyenne2,3	0.3196	-	-
C.V.M23	(6.34)	-	-
PLANTE	5.9787	2.700	0.819
AMENDEMENT	1.2663	3.963	0.986
SUBSIDIAIRE	0.0397	0.124	0.274
BLOC	0.2992	0.135	0.123
PLTE*AMDT.	0.8555	2.677	0.973
PLTE*SUBS.	0.0616	0.193	0.173
AMDT*SUBS.	0.3297	1.032	0.611
PLTE*AMDT*SUBS.	0.1688	0.528	0.215

PARAMETRE: DR

UNITE: plt/m2

NUMERO: 24

1-DONNEES OBSERVEES

	plante1	plante2	plante3
X 0 0 0	6.978	7.200	7.022
X 0 0 1	7.067	7.022	7.289
X 0 0 2	7.022	6.933	6.978
X 0 1 0	6.978	7.156	6.444
X 0 1 1	7.022	7.111	7.067
X 0 1 2	7.111	7.022	7.022
X 1 0 0	7.156	6.933	5.867
X 1 0 1	7.111	6.978	7.156
X 1 0 2	7.022	7.289	6.400
X 1 1 0	6.889	7.200	6.756
X 1 1 1	7.022	7.289	7.022
X 1 1 2	7.067	6.978	7.067
X 2 0 0	7.111	6.978	7.156
X 2 0 1	7.156	7.067	7.022
X 2 0 2	7.067	6.933	7.022
X 2 1 0	7.022	7.022	6.844
X 2 1 1	7.511	6.800	7.022
X 2 1 2	7.111	7.156	7.111
X 3 0 0	7.244	7.111	7.511
X 3 0 1	7.333	7.156	7.333
X 3 0 2	7.156	7.067	7.111
X 3 1 0	6.756	7.067	7.022
X 3 1 1	7.156	7.022	7.022
X 3 1 2	7.067	6.400	7.111

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X...= 7.03

B) PLANTE

X0= 7.09 (0.79) X1= 7.04 (0.05) X2= 6.97 (-0.84)

C) DOSE AMENDEMENT

X0= 7.02 (-0.12) X1= 6.96 (-1.11) X2= 7.06 (0.40)
X3= 7.09 (0.82)

D) FACTEUR SUBSIDIAIRE

X0= 7.05 (0.30) X1= 7.01 (-0.30)

E) FACTEUR BLOC

X0= 6.98 (-0.82) X1= 7.11 (1.16) X2= 7.01 (-0.34)

F) INTERACTION PLANTE-AMENDEMENT

X00=	7.03 (-0.05)	X10=	7.07 (0.58)	X20=	6.97 (-0.90)
X01=	7.04 (0.16)	X11=	7.11 (1.11)	X21=	6.71 (-4.58)
X02=	7.16 (1.84)	X12=	6.99 (-0.58)	X22=	7.03 (-0.05)
X03=	7.12 (1.21)	X13=	6.97 (-0.90)	X23=	7.19 (2.16)

G) INTERACTION PLANTE-SUBSIDIAIRE

X00=	7.12 (1.21)	X10=	7.06 (0.32)	X20=	6.99 (-0.63)
X01=	7.06 (0.37)	X11=	7.02 (-0.21)	X21=	6.96 (-1.05)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00=	7.06 (0.33)	X10=	6.88 (-2.19)	X20=	7.06 (0.33)
X30=	7.22 (2.72)	X01=	6.99 (-0.58)	X11=	7.03 (-0.02)
X21=	7.07 (0.47)	X31=	6.96 (-1.07)		

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000=	7.02 (-0.16)	X001=	7.04 (0.05)	X010=	7.10 (0.90)
X011=	6.99 (-0.58)	X020=	7.11 (1.11)	X021=	7.21 (2.58)
X030=	7.24 (3.00)	X031=	6.99 (-0.58)	X100=	7.05 (0.26)
X101=	7.10 (0.90)	X110=	7.07 (0.47)	X111=	7.16 (1.74)
X120=	6.99 (-0.58)	X121=	6.99 (-0.58)	X130=	7.11 (1.11)
X131=	6.83 (-2.90)	X200=	7.10 (-0.90)	X201=	6.84 (-2.69)
X210=	6.47 (-7.95)	X211=	6.95 (-1.21)	X220=	7.07 (0.47)
X221=	6.99 (-0.58)	X230=	7.32 (4.05)	X231=	7.05 (0.26)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE CH123= 0.321 CH112= 0.000 CH123= 0.000

les 3 variances residuelles sont homogenes

4-ANALYSE DE VARIANCE

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR.GENERALE	0.0557	-	-
VAR.RESIDUEL.			
1er niveau	0.0584	-	-
C.V.1	(3.43)	-	-
2eme niveau	0.0408	-	-
C.V.2	(2.87)	-	-
3eme niveau	0.0382	-	-
C.V.3	(2.78)	-	-
moyenne1,2et3	0.0410	-	-
C.V.M123	(2.89)	-	-
moyenne1,2	0.0000	-	-
C.V.M12	(0.00)	-	-
moyenne2,3	0.0000	-	-
C.V.M23	(0.00)	-	-
PLANTE	0.0793	1.935	0.846
AMENDEMENT	0.0618	1.507	0.776
SUBSIDIAIRE	0.0317	0.773	0.388
BLDC	0.1262	3.077	0.946
PLTE*AMDT.	0.1111	2.708	0.976
PLTE*SUBS.	0.0014	0.035	0.034
AMDT*SUBS.	0.1376	3.355	0.974
PLTE*AMDT*SUBS.	0.0602	1.468	0.791

PARAMETRE: H55

UNITE: cm

NUMERO: 0

1-DONNEES OBSERVEES

	plante1	plante2	plante3
X 0 0 0	16.850	15.690	21.650
X 0 0 1	19.380	22.230	21.750
X 0 0 2	33.450	33.450	26.200
X 0 1 0	14.300	15.940	17.180
X 0 1 1	18.850	21.950	25.200
X 0 1 2	33.150	35.700	29.480
X 1 0 0	13.150	13.450	10.800
X 1 0 1	19.980	23.580	32.700
X 1 0 2	32.750	25.050	27.450
X 1 1 0	13.030	16.040	10.280
X 1 1 1	19.980	22.050	23.450
X 1 1 2	32.590	19.930	24.200
X 2 0 0	23.800	18.230	18.850
X 2 0 1	13.430	21.350	21.830
X 2 0 2	33.030	30.980	23.250
X 2 1 0	20.780	18.350	17.000
X 2 1 1	19.450	23.300	28.050
X 2 1 2	36.130	33.680	30.850
X 3 0 0	22.050	22.530	18.380
X 3 0 1	18.130	24.100	25.050
X 3 0 2	38.780	30.550	31.700
X 3 1 0	18.180	20.910	21.730
X 3 1 1	21.300	29.050	32.600
X 3 1 2	44.180	32.850	37.100

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X...= 23.95

B) PLANTE

X0= 24.03 (-0.33) X1= 23.79 (-0.67) X2= 24.03 (0.34)

C) DOSE AMENDEMENT

X0= 23.47 (-2.02) X1= 21.14 (-11.75) X2= 24.02 (0.29)
X3= 27.18 (13.47)

D) FACTEUR SUBSIDIAIRE

X0= 23.49 (-1.93) X1= 24.41 (1.93)

E) FACTEUR BLOC

X0= 17.46 (-27.08) X1= 22.86 (-4.53) X2= 31.52 (31.61)

F) INTERACTION PLANTE-AMENDEMENT

X00=	22.66 (-5.37)	X10=	24.16 (0.88)	X20=	23.58 (-1.56)
X01=	21.91 (-8.50)	X11=	20.02 (-16.42)	X21=	21.48 (-10.31)
X02=	24.44 (2.03)	X12=	24.31 (1.53)	X22=	23.30 (-2.69)
X03=	27.10 (13.17)	X13=	26.66 (11.34)	X23=	27.76 (15.91)

G) INTERACTION PLANTE-SUBSIDIAIRE

X00=	23.73 (-0.91)	X10=	23.43 (-2.16)	X20=	23.30 (-2.71)
X01=	24.33 (1.57)	X11=	24.15 (0.82)	X21=	24.76 (3.38)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00=	23.41 (-2.27)	X10=	22.10 (-7.72)	X20=	22.75 (-5.01)
X30=	25.70 (7.29)	X01=	23.53 (-1.76)	X11=	20.17 (-15.77)
X21=	25.29 (5.59)	X31=	28.66 (19.65)		

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000=	23.23 (-3.02)	X001=	22.10 (-7.72)	X010=	21.96 (-8.31)
X011=	21.87 (-8.70)	X020=	23.42 (-2.21)	X021=	25.45 (6.28)
X030=	26.32 (9.90)	X031=	27.89 (16.44)	X100=	23.79 (-0.67)
X101=	24.53 (2.42)	X110=	20.69 (-13.60)	X111=	19.34 (-19.25)
X120=	23.52 (-1.79)	X121=	25.11 (4.85)	X130=	25.73 (7.42)
X131=	27.60 (15.26)	X200=	23.20 (-3.13)	X201=	23.95 (0.02)
X210=	23.65 (-1.25)	X211=	19.31 (-19.37)	X220=	21.31 (-11.02)
X221=	25.30 (5.64)	X230=	25.04 (4.57)	X231=	30.48 (27.25)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE CH1123= 21.484 CH112= 5.744 CH123= 6.978

les 3 variances residuelles ne sont pas homogenes

4-ANALYSE DE VARIANCE

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR.GENERALE	53.9629	-	-
VAR.RESIDUEL.			
1er niveau	107.9411	-	-
C.V.1	(43.38)	-	-
2eme niveau	19.8501	-	-
C.V.2	(18.60)	-	-
3eme niveau	6.1028	-	-
C.V.3	(10.31)	-	-
moyenne1,2et3	0.0000	-	-
C.V.M123	(0.00)	-	-
moyenne1,2	0.0000	-	-
C.V.M12	(0.00)	-	-
moyenne2,3	0.0000	-	-
C.V.M23	(0.00)	-	-
PLANTE	0.4632	0.004	0.004
AMENDEMENT	111.3660	5.610	0.993
SUBSIDIAIRE	15.3181	2.510	0.877
BLOC	1206.5348	11.178	0.975
PLTE*AMDT.	4.3386	0.219	0.035
PLTE*SUBS.	1.3171	0.216	0.191
AMDT*SUBS..	23.2903	3.816	0.978
PLTE*AMDT*SUBS:	5.6479	0.925	0.495

PARAMETRE: H62

UNITE: cm

NUMERO: 1

1-DONNEES OBSERVEES

	plante1	plante2	plante3
X 0 0 0	28.980	27.950	41.600
X 0 0 1	33.880	47.230	43.250
X 0 0 2	68.800	73.550	55.800
X 0 1 0	27.050	27.100	31.750
X 0 1 1	33.330	44.280	51.080
X 0 1 2	71.450	76.250	66.500
X 1 0 0	21.050	24.250	17.850
X 1 0 1	35.080	47.630	63.280
X 1 0 2	67.000	53.550	52.300
X 1 1 0	21.700	27.630	16.600
X 1 1 1	30.840	51.200	46.580
X 1 1 2	71.400	42.550	45.250
X 2 0 0	50.730	26.230	34.750
X 2 0 1	26.080	48.280	39.880
X 2 0 2	67.830	65.350	48.700
X 2 1 0	46.430	30.890	31.150
X 2 1 1	33.600	48.550	60.380
X 2 1 2	70.680	69.750	61.400
X 3 0 0	47.600	47.150	28.650
X 3 0 1	33.330	50.580	47.830
X 3 0 2	80.950	65.700	66.400
X 3 1 0	39.350	41.030	43.000
X 3 1 1	37.000	62.800	61.480
X 3 1 2	91.150	74.600	71.250

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X...= 47.72

B) PLANTE

X0= 47.30 (-0.88) X1= 46.92 (2.51) X2= 46.95 (-1.63)

C) DOSE AMENDEMENT

X0= 47.21 (-1.07) X1= 40.87 (-14.35) X2= 47.81 (0.19)
X3= 54.99 (15.23)

D) FACTEUR SUBSIDIAIRE

X0= 46.64 (-2.27) X1= 48.81 (2.27)

E) FACTEUR BLOC

X0= 32.52 (-31.86) X1= 44.89 (-5.93) X2= 65.76 (37.79)

F) INTERACTION PLANTE-AMENDEMENT

X00=	43.91 (-7.98)	X10=	49.39 (3.50)	X20=	48.33 (1.27)
X01=	41.18 (-13.71)	X11=	41.13 (-13.81)	X21=	40.31 (-15.53)
X02=	49.22 (3.15)	X12=	48.17 (0.94)	X22=	46.04 (-3.52)
X03=	54.90 (15.03)	X13=	56.98 (19.39)	X23=	53.10 (11.27)

G) INTERACTION PLANTE-SUBSIDIAIRE

X00=	46.78 (-1.99)	X10=	46.12 (0.83)	X20=	45.02 (-5.66)
X01=	47.83 (0.23)	X11=	49.72 (4.18)	X21=	48.87 (2.40)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00=	46.78 (-1.97)	X10=	42.44 (-11.06)	X20=	45.31 (-5.05)
X30=	52.02 (9.01)	X01=	47.64 (-0.17)	X11=	39.31 (-17.64)
X21=	50.31 (5.43)	X31=	57.96 (21.46)		

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000=	43.89 (-8.04)	X001=	43.94 (-7.92)	X010=	41.04 (-14.00)
X011=	41.31 (-13.43)	X020=	48.21 (1.03)	X021=	50.24 (5.27)
X030=	53.96 (13.07)	X031=	55.83 (16.99)	X100=	49.58 (3.88)
X101=	49.21 (3.12)	X110=	41.81 (-12.39)	X111=	40.46 (-15.22)
X120=	46.62 (-2.31)	X121=	49.73 (4.20)	X130=	54.48 (14.15)
X131=	59.48 (24.63)	X200=	46.88 (-1.76)	X201=	49.78 (4.30)
X210=	44.48 (-6.80)	X211=	36.14 (-24.26)	X220=	41.11 (-13.86)
X221=	50.98 (6.82)	X230=	47.63 (-0.20)	X231=	58.58 (22.74)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE CHI123= 26.384 CHI12= 7.010 CHI23= 8.486

les 3 variances residuelles ne sont pas homogenes

4-ANALYSE DE VARIANCE

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR.GENERALE	300.7247	-	-
VAR.RESIDUEL.			
1er niveau	678.8480	-	-
C.V.1	(54.60)	-	-
2eme niveau	106.1291	-	-
C.V.2	(21.59)	-	-
3eme niveau	28.7844	-	-
C.V.3	(11.24)	-	-
moyenne1,2et3	0.0000	-	-
C.V.M123	(0.00)	-	-
moyenne1,2	0.0000	-	-
C.V.M12	(0.00)	-	-
moyenne2,3	0.0000	-	-
C.V.M23	(0.00)	-	-
PLANTE	26.5311	0.039	0.037
AMENDEMENT	600.0289	5.654	0.993
SUBSIDIAIRE	84.4350	2.933	0.904
BLOC	6772.4920	9.976	0.971
PLTE*AMDT.	21.2901	0.201	0.029
PLTE*SUBS.	13.1157	0.456	0.355
AMDT*SUBS.	78.1643	2.716	0.934
PLTE*AMDT*SUBS.	27.3127	0.949	0.481

PARAMETRE: H69

UNITE: cm

NUMERO: 3

1-DONNEES OBSERVEES

	plante1	plante2	plante3
X 0 0 0	49.330	52.880	72.050
X 0 0 1	61.950	93.150	64.030
X 0 0 2	110.500	124.350	99.250
X 0 1 0	49.780	51.830	62.580
X 0 1 1	65.150	84.200	67.880
X 0 1 2	117.930	130.250	110.650
X 1 0 0	39.600	52.750	32.320
X 1 0 1	70.780	82.830	117.700
X 1 0 2	113.700	75.250	86.250
X 1 1 0	38.950	44.600	27.750
X 1 1 1	69.250	87.730	97.400
X 1 1 2	120.430	69.500	78.880
X 2 0 0	71.250	51.680	63.790
X 2 0 1	56.050	60.330	81.450
X 2 0 2	119.000	107.730	88.080
X 2 1 0	66.900	63.350	54.130
X 2 1 1	71.400	69.330	109.580
X 2 1 2	120.550	116.580	101.100
X 3 0 0	87.780	67.600	50.230
X 3 0 1	53.300	92.260	95.980
X 3 0 2	123.050	107.680	114.400
X 3 1 0	73.750	67.450	81.880
X 3 1 1	57.280	114.530	105.300
X 3 1 2	130.800	118.550	117.700

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X...= 82.02

B) PLANTE

X0= 80.77 (-1.52) X1= 82.77 (0.91) X2= 82.52 (0.61)

C) DOSE AMENDEMENT

X0= 81.54 (-0.58) X1= 72.54 (-11.56) X2= 81.79 (-0.27)
X3= 92.20 (12.41)

D) FACTEUR SUBSIDIAIRE

X0= 80.29 (-2.11) X1= 83.75 (2.11)

E) FACTEUR BLOC

X0= 57.26 (-30.19) X1= 80.37 (-2.01) X2= 108.42 (32.20)

F) INTERACTION PLANTE-AMENDEMENT

X00= 75.77 (-7.61)	X10= 89.44 (9.05)	X20= 79.41 (-3.18)
X01= 75.45 (-8.00)	X11= 68.78 (-16.14)	X21= 73.38 (-10.53)
X02= 84.19 (2.65)	X12= 78.17 (-4.69)	X22= 83.02 (1.23)
X03= 87.66 (6.88)	X13= 94.68 (15.44)	X23= 94.25 (14.91)

G) INTERACTION PLANTE-SUBSIDIAIRE

X00= 79.69 (-2.84)	X10= 80.71 (-1.60)	X20= 80.46 (-1.90)
X01= 81.85 (-0.21)	X11= 84.83 (3.42)	X21= 84.57 (3.11)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00= 80.83 (-1.44)	X10= 74.58 (-9.07)	X20= 77.71 (-5.26)
X30= 88.03 (7.33)	X01= 82.25 (0.28)	X11= 70.50 (-14.04)
X21= 85.88 (4.71)	X31= 96.36 (17.49)	

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000= 73.93 (-9.86)	X001= 77.62 (-5.36)	X010= 74.69 (-8.93)
X011= 76.21 (-7.08)	X020= 82.10 (0.10)	X021= 86.28 (5.20)
X030= 88.04 (7.35)	X031= 87.28 (6.41)	X100= 90.13 (9.89)
X101= 88.76 (8.22)	X110= 70.28 (-14.31)	X111= 67.28 (-17.97)
X120= 73.25 (-10.69)	X121= 83.09 (1.30)	X130= 89.18 (8.73)
X131= 100.18 (22.14)	X200= 78.44 (-4.36)	X201= 80.37 (-2.01)
X210= 78.76 (-3.97)	X211= 68.01 (-17.08)	X220= 77.77 (-5.17)
X221= 88.27 (7.62)	X230= 86.87 (5.92)	X231= 101.63 (23.91)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE CHI123= 30.088 CHI12= 2.117 CHI23= 0.000

les 3 variances residuelles des 2 premiers niveaux sont homogenes

4-ANALYSE DE VARIANCE

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR.GENERALE	734.4374	-	-
VAR.RESIDUEL.			
1er niveau	1353.7938	-	-
C.V.1	(44.86)	-	-
2eme niveau	463.7223	-	-
C.V.2	(26.26)	-	-
3eme niveau	52.8862	-	-
C.V.3	(8.87)	-	-
moyenne1,2et3	0.0000	-	-
C.V.M123	(0.00)	-	-
moyenne1,2	625.5535	-	-
C.V.M12	(30.50)	-	-
moyenne2,3	0.0000	-	-
C.V.M23	(0.00)	-	-
PLANTE	28.3976	0.045	0.044
AMENDEMENT	1162.4741	1.858	0.835
SUBSIDIAIRE	215.5926	4.077	0.948
BLOC	15755.8018	25.187	1.000
PLTE*AMDT.	165.5169	0.265	0.053
PLTE*SUBS.	7.6540	0.145	0.134
AMDT*SUBS.	160.3404	3.032	0.952
PLTE*AMDT*SUBS.	58.7942	1.112	0.615

PARAMETRE: H76

UNITE: cm

NUMERO: 5

1-DONNEES OBSERVEES

	plantel	plante2	plante3
X 0 0 0	92.880	90.980	119.330
X 0 0 1	125.480	152.550	142.930
X 0 0 2	178.130	180.800	158.200
X 0 1 0	101.400	91.400	110.500
X 0 1 1	125.580	145.900	158.980
X 0 1 2	183.000	182.450	162.430
X 1 0 0	83.150	91.150	69.060
X 1 0 1	118.550	154.930	174.250
X 1 0 2	176.230	158.450	144.400
X 1 1 0	82.200	102.350	51.850
X 1 1 1	117.650	161.030	160.300
X 1 1 2	181.380	137.950	138.730
X 2 0 0	142.750	103.430	124.050
X 2 0 1	109.800	153.750	137.500
X 2 0 2	181.350	170.650	154.030
X 2 1 0	152.350	119.740	99.950
X 2 1 1	130.250	148.450	173.200
X 2 1 2	183.500	170.950	157.550
X 3 0 0	142.950	146.240	100.080
X 3 0 1	124.060	149.150	168.430
X 3 0 2	186.550	174.700	172.950
X 3 1 0	128.000	139.880	147.300
X 3 1 1	137.500	177.650	179.590
X 3 1 2	198.300	189.000	169.850

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X...= 142.39

B) PLANTE

X0= 141.04 (-0.95) X1= 145.56 (2.23) X2= 140.56 (-1.28)

C) DOSE AMENDEMENT

X0= 138.94 (-2.42) X1= 127.98 (-10.12) X2= 145.18 (1.96)
X3= 157.45 (10.58)

D) FACTEUR SUBSIDIAIRE

X0= 140.44 (-1.37) X1= 144.34 (1.37)

E) FACTEUR BLOC

X0= 109.71 (-22.95) X1= 146.98 (3.22) X2= 170.48 (19.73)

F) INTERACTION PLANTE-AMENDEMENT

X00= 134.41 (-5.60)	X10= 140.68 (-1.20)	X20= 141.73 (-0.46)
X01= 126.53 (-11.14)	X11= 134.31 (-5.67)	X21= 123.10 (-13.55)
X02= 150.00 (5.35)	X12= 144.49 (1.48)	X22= 141.05 (-0.94)
X03= 153.23 (7.61)	X13= 162.77 (14.31)	X23= 156.37 (9.82)

G) INTERACTION PLANTE-SUBSIDIAIRE

X00= 138.66 (-2.62)	X10= 143.90 (1.06)	X20= 138.77 (-2.54)
X01= 143.43 (0.73)	X11= 147.23 (3.40)	X21= 142.35 (-0.03)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00= 137.92 (-3.14)	X10= 130.02 (-8.69)	X20= 141.92 (-0.33)
X30= 151.90 (6.68)	X01= 139.96 (-1.71)	X11= 125.94 (-11.55)
X21= 148.44 (4.25)	X31= 163.01 (14.48)	

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000= 132.16 (-7.18)	X001= 136.66 (-4.02)	X010= 125.98 (-11.53)
X011= 127.08 (-10.75)	X020= 144.63 (1.58)	X021= 155.37 (9.11)
X030= 151.85 (6.65)	X031= 154.60 (8.58)	X100= 141.44 (-0.66)
X101= 139.92 (-1.74)	X110= 134.84 (-5.30)	X111= 133.78 (-6.05)
X120= 142.61 (0.16)	X121= 146.38 (2.80)	X130= 156.70 (10.05)
X131= 168.84 (18.58)	X200= 140.15 (-1.57)	X201= 143.30 (0.64)
X210= 129.24 (-9.24)	X211= 116.96 (-17.86)	X220= 138.53 (-2.71)
X221= 143.57 (0.83)	X230= 147.15 (3.35)	X231= 165.58 (16.29)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE CHI123= 23.912 CHI12= 5.074 CHI23= 9.969

les 3 variances residuelles ne sont pas homogenes

4-ANALYSE DE VARIANCE

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR.GENERALE	1082.5919	-	-
VAR.RESIDUEL.			
1er niveau	2411.7987	-	-
C.V.1	(34.49)	-	-
2eme niveau	487.0095	-	-
C.V.2	(15.50)	-	-
3eme niveau	117.8376	-	-
C.V.3	(7.62)	-	-
moyenne1,2et3	0.0000	-	-
C.V.M123	(0.00)	-	-
moyenne1,2	0.0000	-	-
C.V.M12	(0.00)	-	-
moyenne2,3	0.0000	-	-
C.V.M23	(0.00)	-	-
PLANTE	182.8885	0.076	0.072
AMENDEMENT	2725.9399	5.597	0.993
SUBSIDIAIRE	273.0784	2.317	0.862
BLOC	22539.4764	9.345	0.967
PLTE*AMDT.	124.4557	0.256	0.050
PLTE*SUBS.	3.5357	0.030	0.029
AMDT*SUBS.	188.8935	1.603	0.786
PLTE*AMDT*SUBS.	67.6077	0.574	0.251

PARAMETRE: H83

UNITE: cm

NUMERO: 6

1-DONNEES OBSERVEES

	plante1	plante2	plante3
X 0 0 0	152.880	161.450	176.680
X 0 0 1	198.400	201.100	202.100
X 0 0 2	217.850	235.350	210.030
X 0 1 0	166.800	167.400	188.850
X 0 1 1	193.800	193.650	219.100
X 0 1 2	216.750	226.000	183.830
X 1 0 0	151.080	155.080	125.330
X 1 0 1	176.930	209.030	222.150
X 1 0 2	226.100	206.900	195.150
X 1 1 0	146.250	174.450	101.780
X 1 1 1	201.530	216.980	212.930
X 1 1 2	217.800	213.350	211.950
X 2 0 0	208.680	183.750	187.160
X 2 0 1	182.780	211.250	195.400
X 2 0 2	214.750	233.450	208.750
X 2 1 0	222.050	188.500	184.550
X 2 1 1	196.900	216.600	234.330
X 2 1 2	212.880	226.100	192.600
X 3 0 0	209.100	213.530	170.350
X 3 0 1	196.600	206.500	224.500
X 3 0 2	232.600	230.650	224.480
X 3 1 0	199.300	211.800	191.100
X 3 1 1	199.430	238.430	218.700
X 3 1 2	221.800	234.130	184.630

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X...= 199.79

B) PLANTE

X0= 198.46 (-0.67) X1= 206.48 (3.35) X2= 194.43 (-2.68)

C) DOSE AMENDEMENT

X0= 195.11 (-2.34) X1= 186.93 (-6.44) X2= 205.58 (2.90)
X3= 211.53 (5.88)

D) FACTEUR SUBSIDIAIRE

X0= 198.83 (-0.48) X1= 200.75 (0.46)

E) FACTEUR BLOC

X0= 176.58 (-11.62) X1= 207.05 (3.63) X2= 215.74 (7.99)

F) INTERACTION PLANTE-AMENDEMENT.

X00= 191.08 (-4.36)	X10= 197.49 (-1.15)	X20= 196.76 (-1.51)
X01= 186.61 (-6.59)	X11= 195.96 (-1.91)	X21= 178.21 (-10.80)
X02= 206.34 (3.28)	X12= 209.94 (5.08)	X22= 200.46 (0.34)
X03= 209.86 (5.01)	X13= 222.51 (11.37)	X23= 202.29 (1.25)

G) INTERACTION PLANTE-SUBSIDIAIRE

X00= 197.31 (-1.24)	X10= 204.00 (2.11)	X20= 195.17 (-2.31)
X01= 199.61 (-0.09)	X11= 208.95 (4.58)	X21= 193.70 (-3.05)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00= 195.09 (-2.35)	X10= 185.31 (-7.25)	X20= 202.89 (1.55)
X30= 212.03 (6.13)	X01= 195.13 (-2.33)	X11= 188.56 (-5.62)
X21= 208.28 (4.25)	X31= 211.04 (5.63)	

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000= 189.71 (-5.05)	X001= 192.45 (-3.67)	X010= 184.70 (-7.55)
X011= 188.53 (-5.64)	X020= 202.07 (1.14)	X021= 210.61 (5.42)
X030= 212.77 (6.50)	X031= 206.84 (3.53)	X100= 199.30 (-0.25)
X101= 195.68 (-2.06)	X110= 190.34 (-4.73)	X111= 201.59 (0.90)
X120= 209.48 (4.85)	X121= 210.40 (5.31)	X130= 216.89 (8.56)
X131= 228.12 (14.18)	X200= 196.27 (-1.76)	X201= 197.26 (-1.27)
X210= 180.88 (-9.47)	X211= 175.55 (-12.13)	X220= 197.10 (-1.34)
X221= 203.83 (2.02)	X230= 206.44 (3.33)	X231= 198.14 (-0.82)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE CHI123= 12.410 CHI12= 0.583 CHI23= 0.000

les 3 variances residuelles des 2 premiers niveaux sont homogenes

4-ANALYSE DE VARIANCE

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR.GENERALE	702.9579	-	-
VAR.RESIDUEL.			
1er niveau	1136.7877	-	-
C.V.1	(16.88)	-	-
2eme niveau	632.4565	-	-
C.V.2	(12.59)	-	-
3eme niveau	157.7943	-	-
C.V.3	(6.29)	-	-
moyenne1,2et3	0.0000	-	-
C.V.M123	(0.00)	-	-
moyenne1,2	724.1531	-	-
C.V.M12	(13.47)	-	-
moyenne2,3	0.0000	-	-
C.V.M23	(0.00)	-	-
PLANTE	901.8639	1.245	0.693
AMENDEMENT	2152.2792	2.972	0.947
SUBSIDIAIRE	66.4320	0.421	0.471
BLOC	10151.5682	14.019	1.000
PLTE*AMDT.	136.2563	0.188	0.024
PLTE*SUBS.	62.5179	0.396	0.318
AMDT*SUBS.	38.8523	0.246	0.136
PLTE*AMDT*SUBS.	83.7189	0.531	0.219

PARAMETRE: V55-62

UNITE: cm/j

NUMERO: 2

1-DONNEES OBSERVEES

	plante1	plante2	plante3
X 0 0 0	1.733	1.751	2.850
X 0 0 1	2.071	3.571	3.071
X 0 0 2	5.050	5.729	4.229
X 0 1 0	1.821	1.594	2.081
X 0 1 1	2.069	3.190	3.697
X 0 1 2	5.471	5.793	5.289
X 1 0 0	1.129	1.543	1.007
X 1 0 1	2.157	3.436	4.369
X 1 0 2	4.893	4.071	3.550
X 1 1 0	1.239	1.656	0.903
X 1 1 1	1.551	4.164	3.304
X 1 1 2	5.544	3.231	3.007
X 2 0 0	3.847	1.143	2.271
X 2 0 1	1.807	3.847	2.579
X 2 0 2	4.971	4.910	3.636
X 2 1 0	3.664	1.790	2.021
X 2 1 1	2.021	3.607	4.619
X 2 1 2	4.936	5.153	4.364
X 3 0 0	3.650	3.517	1.467
X 3 0 1	2.171	3.783	3.254
X 3 0 2	6.024	5.021	4.957
X 3 1 0	3.024	2.874	3.039
X 3 1 1	2.243	4.821	4.126
X 3 1 2	6.710	5.964	4.879

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X...= 3.40

B) PLANTE

X0= 3.32 (-2.10) X1= 3.59 (5.71) X2= 3.27 (-3.61)

C) DOSE AMENDEMENT

X0= 3.39 (-0.12) X1= 2.82 (-16.98) X2= 3.40 (0.09)
X3= 3.97 (17.00)

D) FACTEUR SUBSIDIAIRE

X0= 3.31 (-2.61) X1= 3.49 (2.61)

E) FACTEUR BLOC

X0= 2.15 (-36.68) X1= 3.15 (-7.34) X2= 4.89 (44.01)

F) INTERACTION PLANTE-AMENDEMENT

X00=	3.04 (-10.61)	X10=	3.60 (6.14)	X20=	3.54 (4.12)
X01=	2.75 (-18.96)	X11=	3.02 (-11.17)	X21=	2.69 (-20.79)
X02=	3.54 (4.27)	X12=	3.41 (0.36)	X22=	3.25 (-4.35)
X03=	3.97 (16.91)	X13=	4.33 (27.50)	X23=	3.62 (6.60)

G) INTERACTION PLANTE-SUBSIDIAIRE

X00=	3.29 (-3.07)	X10=	3.53 (3.85)	X20=	3.10 (-8.62)
X01=	3.36 (-1.13)	X11=	3.65 (7.57)	X21=	3.44 (1.41)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00=	3.34 (-1.67)	X10=	2.91 (-14.43)	X20=	3.22 (-5.09)
X30=	3.76 (10.73)	X01=	3.45 (1.44)	X11=	2.73 (-19.52)
X21=	3.58 (5.27)	X31=	4.19 (23.27)		

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000=	2.95 (-13.10)	X001=	3.12 (-8.12)	X010=	2.73 (-19.73)
X011=	2.78 (-18.20)	X020=	3.54 (4.29)	X021=	3.54 (4.25)
X030=	3.95 (16.26)	X031=	3.99 (17.55)	X100=	3.68 (8.47)
X101=	3.53 (3.81)	X110=	3.62 (-11.18)	X111=	3.02 (-11.16)
X120=	3.30 (-2.83)	X121=	3.52 (3.55)	X130=	4.11 (20.93)
X131=	4.55 (34.07)	X200=	3.38 (-0.38)	X201=	3.69 (8.62)
X210=	2.98 (-12.40)	X211=	2.40 (-29.19)	X220=	2.83 (-16.71)
X221=	3.67 (8.00)	X230=	3.23 (-5.01)	X231=	4.01 (18.20)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE CH1123= 25.653 CH112= 7.646 CH123= 6.955

les 3 variances residuelles ne sont pas homogenes

4-ANALYSE DE VARIANCE

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR.GENERALE	2.1478	-	-
VAR.RESIDUEL.			
1er niveau	5.4425	-	-
C.V.1	(68.69)	-	-
2eme niveau	0.7887	-	-
C.V.2	(26.15)	-	-
3eme niveau	0.2430	-	-
C.V.3	(14.51)	-	-
moyenne1,2et3	0.0000	-	-
C.V.M123	(0.00)	-	-
moyenne1,2	0.0000	-	-
C.V.M12	(0.00)	-	-
moyenne2,3	0.0000	-	-
C.V.M23	(0.00)	-	-
PLANTE	0.6920	0.127	0.117
AMENDEMENT	3.9951	5.065	0.990
SUBSIDIAIRE	0.5679	2.337	0.864
BLOC	46.1727	8.484	0.962
PLTE*AMDT.	0.3175	0.403	0.132
PLTE*SUBS.	0.1252	0.515	0.391
AMDT*SUBS.	0.3298	1.357	0.721
PLTE*AMDT*SUBS.	0.2110	0.868	0.467

PARAMETRE: V62-69

UNITE: cm/j

NUMERO: 4

1--DONNEES OBSERVEES

	plante1	plante2	plante3
X 0 0 0	2.907	3.561	4.350
X 0 0 1	4.010	6.560	2.969
X 0 0 2	5.957	7.257	6.207
X 0 1 0	3.247	3.533	4.404
X 0 1 1	4.546	5.703	2.400
X 0 1 2	6.640	7.714	6.307
X 1 0 0	2.650	4.071	2.067
X 1 0 1	5.100	5.029	7.774
X 1 0 2	6.671	3.100	4.850
X 1 1 0	2.464	2.424	1.593
X 1 1 1	5.487	5.219	7.260
X 1 1 2	7.004	3.850	4.804
X 2 0 0	2.931	3.636	4.149
X 2 0 1	4.281	1.721	5.939
X 2 0 2	7.310	6.054	5.626
X 2 1 0	2.924	4.639	3.283
X 2 1 1	5.400	2.969	7.029
X 2 1 2	7.124	6.690	5.671
X 3 0 0	5.740	2.921	3.083
X 3 0 1	2.853	5.954	6.879
X 3 0 2	6.014	5.997	6.857
X 3 1 0	4.914	3.774	5.554
X 3 1 1	2.897	7.390	6.260
X 3 1 2	5.664	6.279	6.636

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X...= 4.90

B) PLANTE

X0= 4.78 (-2.42) X1= 4.84 (-1.30) X2= 5.08 (3.72)

C) DOSE AMENDEMENT

X0= 4.90 (0.10) X1= 4.52 (-7.67) X2= 4.85 (-0.92)
X3= 5.31 (8.49)

D) FACTEUR SUBSIDIAIRE

X0= 4.81 (-1.89) X1= 4.99 (1.89)

E) FACTEUR BLOC

X0= 3.53 (-27.86) X1= 5.07 (3.44) X2= 6.10 (24.42)

F) INTERACTION PLANTE-AMENDEMENT

X00=	4.55 (-7.10)	X10=	5.72 (16.79)	X20=	4.44 (-9.38)
X01=	4.90 (-0.06)	X11=	3.95 (-19.40)	X21=	4.72 (-3.56)
X02=	5.00 (1.96)	X12=	4.28 (-12.54)	X22=	5.28 (7.83)
X03=	4.68 (-4.46)	X13=	5.39 (9.94)	X23=	5.88 (19.98)

34.

G) INTERACTION PLANTE-SUBSIDIAIRE

X00=	4.70 (-4.02)	X10=	4.66 (-4.98)	X20=	5.06 (3.33)
X01=	4.86 (-0.81)	X11=	5.02 (2.37)	X21=	5.10 (4.10)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00=	4.86 (-0.71)	X10=	4.59 (-6.30)	X20=	4.63 (-5.54)
X30=	5.14 (5.00)	X01=	4.94 (0.91)	X11=	4.46 (-9.04)
X21=	5.08 (3.71)	X31=	5.49 (11.97)		

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000=	4.29 (-12.40)	X001=	4.81 (-1.80)	X010=	4.81 (-1.88)
X011=	4.99 (1.76)	X020=	4.84 (-1.19)	X021=	5.15 (5.11)
X030=	4.87 (-0.61)	X031=	4.49 (-8.31)	X100=	5.79 (18.24)
X101=	5.65 (15.33)	X110=	4.07 (-16.99)	X111=	3.83 (-21.80)
X120=	3.80 (-22.36)	X121=	4.77 (-2.72)	X130=	4.96 (1.19)
X131=	5.81 (18.68)	X200=	4.51 (-7.97)	X201=	4.37 (-10.79)
X210=	4.90 (-0.04)	X211=	4.55 (-7.08)	X220=	5.24 (6.91)
X221=	5.33 (8.75)	X230=	5.61 (14.43)	X231=	6.15 (25.53)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE CH1123= 30.454 CH112= 0.376 CH123= 0.000

les 3 variances residuelles des 2 premiers niveaux sont homogenes

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR.GENERALE	2.8357	-	-
VAR.RESIDUEL.			
1er niveau	2.5450	-	-
C.V.1	(32.56)	-	-
2eme niveau	4.3212	-	-
C.V.2	(42.43)	-	-
3eme niveau	0.3022	-	-
C.V.3	(11.22)	-	-
moyenne1,2et3	0.0000	-	-
C.V.M123	(0.00)	-	-
moyenne1,2	3.9983	-	-
C.V.M12	(40.82)	-	-
moyenne2,3	0.0000	-	-
C.V.M23	(0.00)	-	-
PLANTE	0.6151	0.154	0.141
AMENDEMENT	1.8968	0.474	0.293
SUBSIDIAIRE	0.6160	2.039	0.837
BLOC	39.8650	9.971	0.999
PLTE*AMDT.	2.5655	0.642	0.302
PLTE*SUBS.	0.1592	0.527	0.398
AMDT*SUBS.	0.3141	1.040	0.606
PLTE*AMDT*SUBS.	0.3662	1.212	0.666

PARAMETRE: V69-76

UNITE: cm/j

NUMERO: 7

1-DONNEES OBSERVEES

	plante1	plante2	plante3
X 0 0 0	6.221	5.443	6.754
X 0 0 1	9.076	8.486	11.271
X 0 0 2	9.661	8.064	8.421
X 0 1 0	7.374	5.653	6.846
X 0 1 1	8.633	8.814	12.729
X 0 1 2	9.296	7.457	7.397
X 1 0 0	6.221	5.486	5.249
X 1 0 1	6.824	10.300	8.079
X 1 0 2	8.933	11.886	8.307
X 1 1 0	6.179	8.250	3.443
X 1 1 1	6.914	10.471	8.986
X 1 1 2	8.707	9.779	8.550
X 2 0 0	10.214	7.393	8.609
X 2 0 1	7.679	13.346	8.007
X 2 0 2	8.907	8.989	9.421
X 2 1 0	12.207	8.056	6.546
X 2 1 1	8.407	11.303	9.089
X 2 1 2	8.993	7.767	8.064
X 3 0 0	7.981	11.234	7.121
X 3 0 1	10.394	8.127	10.350
X 3 0 2	9.071	9.574	8.364
X 3 1 0	7.750	10.347	9.346
X 3 1 1	11.460	9.017	10.613
X 3 1 2	9.643	10.064	7.450

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X...= 8.62

B) PLANTE

X0= 8.61 (-0.16) X1= 8.97 (4.02) X2= 8.29 (-3.85)

C) DOSE AMENDEMENT

X0= 8.20 (-4.92) X1= 7.92 (-8.17) X2= 9.06 (5.00)
X3= 9.32 (8.10)

D) FACTEUR SUBSIDIAIRE

X0= 8.59 (-0.36) X1= 8.66 (0.36)

E) FACTEUR BLOC

X0= 7.49 (-13.12) X1= 9.52 (10.33) X2= 8.87 (2.79)

F) INTERACTION PLANTE-AMENDEMENT

X00=	8.38 (-2.87)	X10=	7.32 (-15.13)	X20=	8.90 (3.23)
X01=	7.30 (-15.40)	X11=	9.36 (8.55)	X21=	7.10 (-17.65)
X02=	9.40 (9.01)	X12=	9.48 (9.87)	X22=	8.29 (-3.89)
X03=	9.37 (8.61)	X13=	9.73 (12.79)	X23=	8.87 (2.89)

G) INTERACTION PLANTE-SUBSIDIAIRE

X00=	8.42 (-2.33)	X10=	9.03 (4.67)	X20=	8.33 (-3.42)
X01=	8.80 (2.00)	X11=	8.91 (3.37)	X21=	8.25 (-4.29)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00=	8.16 (-5.44)	X10=	7.92 (-8.16)	X20=	9.17 (6.37)
X01=	9.12 (5.79)	X11=	8.24 (-4.41)	X21=	7.92 (-8.17)
X02=	8.94 (3.62)	X12=	9.52 (10.40)		

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000=	8.32 (-3.54)	X001=	8.43 (-2.21)	X010=	7.33 (-15.05)
X011=	7.27 (-15.74)	X020=	8.93 (3.58)	X021=	9.87 (14.43)
X030=	9.12 (5.70)	X031=	9.62 (11.52)	X100=	7.33 (-15.00)
X101=	7.31 (-15.26)	X110=	9.22 (6.95)	X111=	9.50 (10.15)
X120=	9.91 (14.89)	X121=	9.04 (4.84)	X130=	9.65 (11.84)
X131=	9.81 (13.74)	X200=	8.82 (2.22)	X201=	8.99 (4.24)
X210=	7.21 (-16.38)	X211=	6.99 (-18.92)	X220=	8.68 (0.63)
X221=	7.90 (-8.41)	X230=	8.61 (-0.15)	X231=	9.14 (5.93)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE CHI123= 15.432 CHI12= 0.139 CHI23= 0.000

les 3 variances residuelles des 2 premiers niveaux sont homogenes

4-ANALYSE DE VARIANCE

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR.GENERALE	3.3717	-	-
VAR.RESIDUEL.			
1er niveau	3.6791	-	-
C.V.1	(22.24)	-	-
2eme niveau	5.0394	-	-
C.V.2	(26.03)	-	-
3eme niveau	0.8297	-	-
C.V.3	(10.56)	-	-
moyenne1,2et3	0.0000	-	-
C.V.M123	(0.00)	-	-
moyenne1,2	4.7921	-	-
C.V.M12	(25.38)	-	-
moyenne2,3	0.0000	-	-
C.V.M23	(0.00)	-	-
PLANTE	2.7693	0.578	0.426
AMENDEMENT	8.0971	1.690	0.803
SUBSIDIAIRE	0.0692	0.083	0.228
BLOC	25.5983	5.342	0.987
PLTE*AMDT.	4.7646	0.994	0.454
PLTE*SUBS.	0.4379	0.528	0.398
AMDT*SUBS.	0.3092	0.373	0.224
PLTE*AMDT*SUBS.	0.4281	0.516	0.208

PARAMETRE: V76-83

UNITE: cm/j

NUMERO: 8

1-DONNEES OBSERVEES

	plantel	plante2	plante3
X 0 0 0	8.571	10.067	8.193
X 0 0 1	10.417	6.936	8.453
X 0 0 2	5.674	7.793	7.404
X 0 1 0	9.343	10.857	11.193
X 0 1 1	9.746	6.821	8.874
X 0 1 2	4.821	6.221	3.057
X 1 0 0	9.704	9.133	8.039
X 1 0 1	8.340	7.729	6.843
X 1 0 2	7.124	6.921	7.250
X 1 1 0	9.150	10.300	7.133
X 1 1 1	11.983	7.993	7.519
X 1 1 2	5.203	10.771	10.460
X 2 0 0	9.419	11.474	9.016
X 2 0 1	10.426	8.214	8.271
X 2 0 2	4.771	8.971	7.817
X 2 1 0	9.957	9.823	12.086
X 2 1 1	9.521	9.736	8.733
X 2 1 2	4.197	7.879	5.007
X 3 0 0	9.450	9.613	10.039
X 3 0 1	10.077	8.193	8.010
X 3 0 2	6.579	7.993	7.361
X 3 1 0	10.186	10.274	6.257
X 3 1 1	8.847	8.683	5.587
X 3 1 2	3.357	6.447	2.111

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X... = 8.20

B) PLANTE

X0 = 8.20 (0.03) X1 = 8.70 (6.12) X2 = 7.70 (-6.15)

C) DOSE AMENDEMENT

X0 = 8.02 (-2.14) X1 = 8.42 (2.70) X2 = 8.63 (5.23)
X3 = 7.73 (-5.79)

D) FACTEUR SUBSIDIAIRE

X0 = 8.34 (1.72) X1 = 8.06 (-1.72)

E) FACTEUR BLOC

X0 = 9.55 (16.50) X1 = 8.58 (4.65) X2 = 6.47 (-21.14)

F) INTERACTION PLANTE-AMENDEMENT

40.

X00=	8.10 (-1.28)	X10=	8.12 (-1.03)	X20=	7.86 (-4.12)
X01=	8.58 (4.68)	X11=	8.81 (7.41)	X21=	7.87 (-3.98)
X02=	8.05 (-1.85)	X12=	9.35 (14.01)	X22=	8.49 (3.51)
X03=	8.08 (-1.43)	X13=	8.53 (4.07)	X23=	6.56 (-19.99)

G) INTERACTION PLANTE-SUBSIDIAIRE

X00=	8.38 (2.18)	X10=	8.59 (4.71)	X20=	8.06 (-1.74)
X01=	8.03 (-2.13)	X11=	8.82 (7.52)	X21=	7.33 (-10.55)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00=	8.17 (-0.40)	X10=	7.90 (-3.69)	X20=	8.71 (6.20)
X30=	8.59 (4.76)	X01=	7.88 (-3.89)	X11=	8.95 (9.09)
X21=	8.55 (4.25)	X31=	6.86 (-16.33)		

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000=	8.22 (0.25)	X001=	7.97 (-2.81)	X010=	8.39 (2.31)
X011=	8.78 (7.05)	X020=	8.21 (0.06)	X021=	7.89 (-3.76)
X030=	8.70 (6.12)	X031=	7.46 (-8.99)	X100=	8.27 (0.79)
X101=	7.97 (-2.85)	X110=	7.93 (-3.32)	X111=	9.69 (18.14)
X120=	9.55 (16.50)	X121=	9.15 (11.53)	X130=	8.60 (4.87)
X131=	8.47 (3.27)	X200=	8.02 (-2.24)	X201=	7.71 (-6.00)
X210=	7.38 (-10.04)	X211=	8.37 (2.08)	X220=	8.37 (2.05)
X221=	8.61 (4.98)	X230=	8.47 (3.29)	X231=	4.65 (-43.27)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE CHI123= 7.764 CHI12= 6.227 CHI23= 0.083

les 3 variances residuelles des 2 derniers niveaux sont homogenes

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR.GENERALE	4.3797	-	-
VAR.RESIDUEL.			
1er niveau	11.0035	-	-
C.V.1	(40.45)	-	-
2eme niveau	1.8981	-	-
C.V.2	(16.80)	-	-
3eme niveau	2.1602	-	-
C.V.3	(17.92)	-	-
moyenne1,2et3	0.0000	-	-
C.V.M123	(0.00)	-	-
moyenne1,2	0.0000	-	-
C.V.M12	(0.00)	-	-
moyenne2,3	2.0479	-	-
C.V.M23	(17.45)	-	-
PLANTE	6.0653	0.551	0.383
AMENDEMENT	2.9325	1.432	0.754
SUBSIDIAIRE	1.4313	0.699	0.413
BLOC	59.7828	5.433	0.927
PLTE*AMDT.	1.5065	0.736	0.374
PLTE*SUBS.	1.3880	0.678	0.482
AMDT*SUBS.	5.8164	2.840	0.952
PLTE*AMDT*SUBS.	1.6246	0.793	0.418

PARAMETRE: PGR

UNITE: g/plt

NUMERO: 10

1--DONNEES OBSERVEES

	plante1	plante2	plante3
X 0 0 0	93.744	111.752	91.155
X 0 0 1	111.063	112.323	103.367
X 0 0 2	134.368	131.463	116.320
X 0 1 0	115.555	106.359	116.174
X 0 1 1	111.146	102.394	115.360
X 0 1 2	121.477	116.102	118.601
X 1 0 0	111.332	114.940	111.261
X 1 0 1	105.192	107.298	124.113
X 1 0 2	135.554	120.400	142.503
X 1 1 0	102.015	121.235	89.338
X 1 1 1	132.448	120.750	129.118
X 1 1 2	135.574	128.007	122.847
X 2 0 0	122.827	113.214	107.852
X 2 0 1	112.140	131.205	122.285
X 2 0 2	126.738	131.404	121.273
X 2 1 0	132.618	121.251	123.778
X 2 1 1	126.535	107.645	129.935
X 2 1 2	130.728	132.920	124.945
X 3 0 0	125.970	131.132	116.933
X 3 0 1	98.213	118.389	128.262
X 3 0 2	124.409	122.395	132.257
X 3 1 0	113.697	114.935	143.824
X 3 1 1	121.674	143.755	118.790
X 3 1 2	136.638	125.238	124.593

2--MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X...= 120.14

B) PLANTE

X0= 120.28 (0.11) X1= 120.36 (0.18) X2= 119.79 (-0.29)

C) DOSE AMENDEMENT

X0= 112.82 (-6.09) X1= 119.66 (-0.40) X2= 123.30 (2.63)
X3= 124.78 (3.87)

D) FACTEUR SUBSIDIAIRE

X0= 118.47 (-1.39) X1= 121.51 (1.39)

E) FACTEUR BLOC

X0= 114.76 (-4.52) X1= 116.27 (-1.56) X2= 127.45 (6.06)

F) INTERACTION PLANTE-AMENDEMENT

X00= 114.56 (-4.65)	X10= 113.73 (-5.33)	X20= 110.16 (-8.30)
X01= 120.35 (0.16)	X11= 118.77 (-1.14)	X21= 119.86 (-0.73)
X02= 125.26 (4.27)	X12= 122.94 (2.33)	X22= 121.68 (1.28)
X03= 120.93 (0.66)	X13= 125.97 (4.86)	X23= 127.44 (6.08)

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G) INTERACTION PLANTE-SUBSIDIAIRE

X00= 116.80 (-2.78)	X10= 120.49 (0.29)	X20= 118.13 (-1.67)
X01= 123.76 (3.01)	X11= 120.22 (0.66)	X21= 121.44 (1.08)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00= 111.73 (-7.00)	X10= 119.18 (-0.80)	X20= 120.99 (0.71)
X30= 122.00 (1.54)	X01= 113.91 (-5.19)	X11= 120.15 (0.01)
X21= 125.60 (4.54)	X31= 127.57 (6.19)	

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000= 113.06 (-5.89)	X001= 116.06 (-3.40)	X010= 117.36 (-2.31)
X011= 123.35 (2.67)	X020= 120.57 (0.36)	X021= 129.96 (8.17)
X030= 116.20 (-3.28)	X031= 125.67 (4.60)	X100= 118.51 (-1.35)
X101= 108.95 (-9.31)	X110= 114.21 (-4.93)	X111= 123.33 (2.66)
X120= 125.27 (4.27)	X121= 120.61 (0.39)	X130= 123.97 (3.19)
X131= 127.98 (-6.52)	X200= 103.61 (-13.76)	X201= 116.71 (-2.85)
X210= 125.96 (4.84)	X211= 113.77 (-5.30)	X220= 117.14 (-2.50)
X221= 126.22 (5.06)	X230= 125.82 (4.73)	X231= 129.07 (7.43)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE CHI123= 0.137 CHI12= 0.000 CHI23= 0.000

les 3 variances residuelles sont homogenes

4-ANALYSE DE VARIANCE

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR. GENERALE	139.9928	-	-
VAR. RESIDUEL			
1er niveau	85.5792	-	-
C.V.1	(7.70)	-	-
2eme niveau	99.4635	-	-
C.V.2	(8.30)	-	-
3eme niveau	111.2417	-	-
C.V.3	(8.78)	-	-
moyenne1,2et3	104.4013	-	-
C.V.M123	(8.50)	-	-
moyenne1,2	0.0000	-	-
C.V.M12	(0.00)	-	-
moyenne2,3	0.0000	-	-
C.V.M23	(0.00)	-	-
PLANTE	2.2790	0.022	0.021
AMENDEMENT	512.1359	4.905	0.995
SUBSIDIAIRE	199.9060	1.915	0.830
BLOC	1037.5948	9.939	1.000
PLTE*AMDT.	41.3941	0.396	0.122
PLTE*SUBS.	78.5920	0.753	0.481
AMDT*SUBS.	20.3333	0.195	0.101
PLTE*AMDT*SUBS.	142.4028	1.364	0.751

PARAMETRE: PGU

UNITE: g/plt

NUMERO: 17

1-DONNEES OBSERVEES

	plante1	plante2	plante3
X 0 0 0	95.385	90.524	82.600
X 0 0 1	102.969	96.059	84.924
X 0 0 2	120.014	125.554	115.031
X 0 1 0	98.518	96.828	102.336
X 0 1 1	118.368	111.467	114.216
X 0 1 2	125.097	124.648	111.870
X 1 0 0	97.404	102.851	109.139
X 1 0 1	104.649	105.442	119.460
X 1 0 2	120.682	115.208	117.843
X 1 1 0	95.059	106.611	71.506
X 1 1 1	108.308	98.511	121.183
X 1 1 2	117.786	114.078	112.403
X 2 0 0	121.174	113.699	116.585
X 2 0 1	106.276	112.665	113.400
X 2 0 2	122.859	113.112	102.747
X 2 1 0	121.192	112.299	106.203
X 2 1 1	108.302	121.000	126.444
X 2 1 2	131.792	115.437	104.649
X 3 0 0	123.354	128.104	89.034
X 3 0 1	109.490	109.712	124.848
X 3 0 2	120.764	120.183	115.116
X 3 1 0	115.516	118.142	117.518
X 3 1 1	119.867	119.068	128.741
X 3 1 2	123.089	124.071	122.854

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X...= 111.86

B) PLANTE

X0= 113.66 (1.61) X1= 112.30 (0.40) X2= 109.61 (-2.01)

C) DOSE AMENDEMENT

X0= 106.47 (-4.82) X1= 107.67 (-3.74) X2= 114.99 (2.80)

X3= 118.30 (5.76)

D) FACTEUR SUBSIDIAIRE

X0= 110.25 (-1.44) X1= 113.47 (1.44)

E) FACTEUR BLOC

X0= 105.48 (-5.70) X1= 111.89 (0.03) X2= 118.20 (5.67)

F) INTERACTION PLANTE-AMENDEMENT

X00= 110.06 (-1.61)	X10= 107.51 (-3.88)	X20= 101.83 (-8.97)
X01= 107.31 (-4.06)	X11= 107.12 (-4.24)	X21= 108.59 (-2.92)
X02= 118.60 (6.03)	X12= 114.70 (2.54)	X22= 111.67 (-0.17)
X03= 118.68 (6.10)	X13= 119.88 (7.17)	X23= 116.35 (4.02)

46.

G) INTERACTION PLANTE-SUBSIDIAIRE

X00= 112.08 (0.20)	X10= 111.09 (-0.69)	X20= 107.56 (-3.84)
X01= 115.24 (3.03)	X11= 113.51 (1.48)	X21= 111.66 (-0.18)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00= 101.45 (-9.30)	X10= 110.30 (-1.40)	X20= 113.61 (1.57)
X30= 115.62 (3.36)	X01= 111.48 (-0.34)	X11= 105.05 (-6.09)
X21= 116.37 (4.03)	X31= 120.99 (8.16)	

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000= 106.12 (-5.13)	X001= 113.99 (1.91)	X010= 107.58 (-3.83)
X011= 107.05 (-4.30)	X020= 116.77 (4.39)	X021= 120.43 (7.66)
X030= 117.87 (5.37)	X031= 119.50 (6.83)	X100= 104.05 (-6.99)
X101= 110.98 (-0.78)	X110= 107.83 (-3.60)	X111= 106.40 (-4.68)
X120= 113.16 (1.16)	X121= 116.25 (3.92)	X130= 119.33 (6.68)
X131= 120.43 (7.66)	X200= 94.18 (-15.80)	X201= 109.47 (-2.13)
X210= 115.48 (3.24)	X211= 101.70 (-9.08)	X220= 110.91 (-0.85)
X221= 112.43 (0.51)	X230= 109.67 (-1.96)	X231= 123.04 (9.99)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE CHI123= 5.331 CHI12= 0.000 CHI23= 0.000
 les 3 variances residuelles sont homogenes

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR. GENERALE	140.7342	-	-
VAR. RESIDUEL			
1er niveau	230.5358	-	-
C.V.1	(13.57)	-	-
2eme niveau	135.2361	-	-
C.V.2	(10.40)	-	-
3eme niveau	58.7775	-	-
C.V.3	(6.85)	-	-
moyenne1,2et3	103.6316	-	-
C.V.M123	(9.10)	-	-
moyenne1,2	0.0000	-	-
C.V.M12	(0.00)	-	-
moyenne2,3	0.0000	-	-
C.V.M23	(0.00)	-	-
PLANTE	102.1425	0.986	0.383
AMENDEMENT	587.6978	5.671	0.998
SUBSIDIAIRE	187.3288	1.808	0.818
BLOC	970.9687	9.369	0.999
PLTE*AMDT.	33.2941	0.321	0.078
PLTE*SUBS.	4.2489	0.041	0.040
AMDT*SUBS.	184.3913	1.779	0.837
PLTE*AMDT*SUBS.	61.1663	0.590	0.262

PARAMETRE: PGT

UNITE: q/plt

NUMERO: 21

1-DONNEES OBSERVEES

	plante1	plante2	plante3
X 0 0 0	95.176	93.145	83.683
X 0 0 1	103.987	98.118	87.173
X 0 0 2	121.831	126.311	115.195
X 0 1 0	100.689	98.012	104.245
X 0 1 1	117.454	110.333	114.360
X 0 1 2	124.645	123.861	112.722
X 1 0 0	99.134	104.401	109.412
X 1 0 1	104.716	105.678	120.038
X 1 0 2	122.565	115.841	121.268
X 1 1 0	95.957	108.416	73.852
X 1 1 1	111.364	101.223	122.187
X 1 1 2	119.911	115.852	113.717
X 2 0 0	121.381	113.637	115.698
X 2 0 1	107.004	114.997	114.525
X 2 0 2	123.347	115.457	105.092
X 2 1 0	122.638	113.376	108.486
X 2 1 1	110.460	119.257	126.886
X 2 1 2	131.659	117.609	107.186
X 3 0 0	123.675	128.483	92.335
X 3 0 1	108.123	110.736	125.262
X 3 0 2	121.217	120.461	117.259
X 3 1 0	115.277	117.738	120.848
X 3 1 1	120.730	122.037	127.481
X 3 1 2	124.793	124.233	123.071

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X...= 112.90

B) PLANTE

X0= 114.49 (1.41) X1= 113.30 (0.35) X2= 110.91 (-1.76)

C) DOSE AMENDEMENT

X0= 107.27 (-4.98) X1= 109.20 (-3.28) X2= 116.03 (2.78)
X3= 119.10 (5.49)

D) FACTEUR SUBSIDIAIRE

X0= 111.29 (-1.43) X1= 114.52 (1.43)

E) FACTEUR BLOC

X0= 106.65 (-5.54) X1= 112.67 (-0.20) X2= 119.38 (5.74)

F) INTERACTION PLANTE-AMENDEMENT

X00= 110.63 (-2.01)	X10= 108.30 (-4.08)	X20= 102.90 (-8.86)
X01= 108.94 (-3.51)	X11= 108.57 (-3.84)	X21= 110.08 (-2.50)
X02= 119.41 (5.77)	X12= 115.72 (2.50)	X22= 112.96 (0.06)
X03= 118.97 (5.36)	X13= 120.61 (6.83)	X23= 117.71 (4.26)

G) INTERACTION PLANTE-SUBSIDIAIRE

X00= 112.68 (-0.20)	X10= 112.27 (-0.56)	X20= 108.90 (-3.54)
X01= 116.30 (3.01)	X11= 114.33 (1.27)	X21= 112.92 (0.02)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00= 102.74 (-9.00)	X10= 111.45 (-1.28)	X20= 114.56 (1.47)
X30= 116.39 (3.09)	X01= 111.81 (-0.96)	X11= 106.94 (-5.28)
X21= 117.51 (4.08)	X31= 121.80 (7.88)	

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000= 107.00 (-5.23)	X001= 114.26 (1.21)	X010= 108.81 (-3.63)
X011= 109.08 (-3.39)	X020= 117.24 (3.85)	X021= 121.59 (7.69)
X030= 117.67 (4.23)	X031= 120.27 (6.52)	X100= 105.86 (-6.24)
X101= 110.74 (-1.92)	X110= 108.64 (-3.77)	X111= 108.50 (-3.90)
X120= 114.70 (1.59)	X121= 116.75 (3.41)	X130= 119.89 (6.19)
X131= 121.34 (7.47)	X200= 95.35 (-15.54)	X201= 110.44 (-2.18)
X210= 116.91 (3.55)	X211= 103.25 (-8.55)	X220= 111.74 (-1.03)
X221= 114.19 (1.14)	X230= 111.62 (-1.14)	X231= 123.80 (9.65)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE CHI123= 4.777 CHI12= 0.000 CHI23= 0.000

les 3 variances residuelles sont homogenes

4-ANALYSE DE VARIANCE

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR. GENERALE	130.1325	-	-
VAR. RESIDUEL.			
1er niveau	204.3630	-	-
C.V.1	(12.66)	-	-
2eme niveau	117.5641	-	-
C.V.2	(9.60)	-	-
3eme niveau	54.6568	-	-
C.V.3	(6.55)	-	-
moyenne1,2et3	92.2906	-	-
C.V.M123	(8.51)	-	-
moyenne1,2	0.0000	-	-
C.V.M12	(0.00)	-	-
moyenne2,3	0.0000	-	-
C.V.M23	(0.00)	-	-
PLANTE	79.6434	0.863	0.432
AMENDEMENT	561.5698	6.085	0.998
SUBSIDIAIRE	187.8244	2.035	0.843
BLOC	973.1278	10.544	1.000
PLTE*AMDT.	31.3650	0.340	0.088
PLTE*SUBS.	6.4338	0.070	0.068
AMDT*SUBS.	148.3424	1.607	0.801
PLTE*AMDT*SUBS.	61.6463	0.668	0.322

PARAMETRE: QGR

UNITE: q/m2

NUMERO: 25

1--DONNEES OBSERVEES

	plante1	plante2	plante3
X 0 0 0	654.122	804.618	640.108
X 0 0 1	784.848	788.754	753.434
X 0 0 2	943.559	911.478	811.653
X 0 1 0	806.320	761.055	748.677
X 0 1 1	780.490	728.137	815.212
X 0 1 2	863.839	829.335	832.842
X 1 0 0	796.643	796.918	652.730
X 1 0 1	748.029	748.701	888.099
X 1 0 2	951.891	877.583	912.017
X 1 1 0	702.768	872.890	603.530
X 1 1 1	930.080	880.135	906.695
X 1 1 2	958.059	893.205	868.120
X 2 0 0	873.434	789.982	771.741
X 2 0 1	802.425	927.184	858.710
X 2 0 2	895.616	911.070	851.604
X 2 1 0	931.272	851.449	847.191
X 2 1 1	950.417	732.122	912.432
X 2 1 2	929.609	951.118	888.496
X 3 0 0	912.581	932.495	878.293
X 3 0 1	720.230	847.136	940.586
X 3 0 2	890.216	864.922	940.495
X 3 1 0	768.084	812.208	1009.963
X 3 1 1	906.423	1009.476	834.168
X 3 1 2	965.577	801.520	885.992

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X...= 845.04

B) PLANTE

X0= 852.77 (0.92) X1= 846.81 (0.21) X2= 835.53 (-1.12)

C) DOSE AMENDEMENT

X0= 792.14 (-6.26) X1= 832.67 (-1.46) X2= 870.88 (3.06)
X3= 884.46 (4.67)

D) FACTEUR SUBSIDIAIRE

X0= 835.39 (-1.14) X1= 854.69 (1.14)

E) FACTEUR BLOC

X0= 800.79 (-5.24) X1= 841.41 (-0.43) X2= 892.91 (5.66)

F) INTERACTION PLANTE-AMENDEMENT

X00= 805.53 (-4.68)	X10= 803.90 (-4.87)	X20= 766.99 (-9.24)
X01= 847.91 (0.34)	X11= 844.91 (-0.02)	X21= 805.20 (-4.71)
X02= 897.13 (6.16)	X12= 860.49 (1.83)	X22= 855.03 (1.18)
X03= 860.52 (1.83)	X13= 877.96 (3.90)	X23= 914.92 (8.27)

G) INTERACTION PLANTE-SUBSIDIAIRE

X00= 831.13 (-1.65)	X10= 850.07 (0.60)	X20= 824.96 (-2.38)
X01= 874.41 (3.48)	X11= 843.55 (-0.18)	X21= 846.11 (0.13)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00= 788.06 (-6.74)	X10= 819.18 (-3.06)	X20= 853.53 (1.00)
X30= 880.77 (4.23)	X01= 796.21 (-5.78)	X11= 846.16 (0.13)
X21= 888.23 (5.11)	X31= 888.16 (5.10)	

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000= 794.18 (-6.02)	X001= 816.88 (-3.33)	X010= 832.19 (-1.52)
X011= 863.64 (2.20)	X020= 857.16 (1.43)	X021= 937.10 (10.89)
X030= 841.01 (-0.48)	X031= 880.03 (4.14)	X100= 834.95 (-1.19)
X101= 772.84 (-8.54)	X110= 807.73 (-4.41)	X111= 862.08 (4.38)
X120= 876.08 (3.67)	X121= 844.90 (-0.02)	X130= 881.52 (4.32)
X131= 874.40 (3.47)	X200= 735.06 (-13.01)	X201= 798.91 (-5.46)
X210= 817.62 (-3.25)	X211= 792.78 (-6.18)	X220= 827.35 (-2.09)
X221= 882.71 (4.46)	X230= 919.79 (8.85)	X231= 910.04 (7.69)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE CHI123= 0.302 CHI12= 0.000 CHI23= 0.000

les 3 variances residuelles sont homogenes

4-ANALYSE DE VARIANCE

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR. GENERALE	7719.5154	-	-
VAR. RESIDUEL			
1er niveau	7190.3073	-	-
C.V.1	(10.03)	-	-
2eme niveau	6841.8395	-	-
C.V.2	(9.79)	-	-
3eme niveau	5465.2688	-	-
C.V.3	(8.75)	-	-
moyenne1,2et3	6153.9303	-	-
C.V.M123	(9.28)	-	-
moyenne1,2	0.0000	-	-
C.V.M12	(0.00)	-	-
moyenne2,3	0.0000	-	-
C.V.M23	(0.00)	-	-
PLANTE	1839.7280	0.299	0.253
AMENDEMENT	31042.3146	5.044	0.996
SUBSIDIAIRE	6708.7243	1.090	0.698
BLOC	51146.8807	8.311	0.999
PLTE*AMDT.	4064.8800	0.661	0.316
PLTE*SUBS.	3734.5962	0.607	0.446
AMDT*SUBS.	844.0683	0.137	0.063
PLTE*AMDT*SUBS.	4134.2060	0.672	0.325

PARAMETRE: DGT

UNITE: g/m2

NUMERO: 22

1--DONNEES OBSERVEES

	plante1	plante2	plante3
X 0 0 0	664.117	670.642	587.637
X 0 0 1	734.843	689.007	635.398
X 0 0 2	855.527	875.758	803.806
X 0 1 0	702.583	701.332	671.799
X 0 1 1	824.787	784.590	808.142
X 0 1 2	886.362	869.779	791.556
X 1 0 0	709.362	723.849	641.886
X 1 0 1	744.650	737.398	858.936
X 1 0 2	860.677	844.356	776.113
X 1 1 0	661.035	780.598	498.912
X 1 1 1	782.021	737.805	858.025
X 1 1 2	847.374	808.393	803.598
X 2 0 0	863.153	792.935	827.242
X 2 0 1	765.674	812.645	804.217
X 2 0 2	871.652	800.504	737.980
X 2 1 0	861.194	796.149	742.525
X 2 1 1	829.675	810.947	891.020
X 2 1 2	936.243	841.556	762.209
X 3 0 0	895.955	913.655	693.540
X 3 0 1	792.901	792.379	918.588
X 3 0 2	867.373	851.257	833.842
X 3 1 0	778.757	832.018	848.619
X 3 1 1	863.892	856.970	895.200
X 3 1 2	881.874	795.089	875.171

2--MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X...= 793.99

B) PLANTE

X0= 811.74 (2.24) X1= 796.65 (0.34) X2= 773.58 (-2.57)

C) DOSE AMENDEMENT

X0= 753.20 (-5.14) X1= 759.72 (-4.32) X2= 819.31 (3.19)
X3= 843.73 (6.26)

D) FACTEUR SUBSIDIAIRE

X0= 784.71 (-1.17) X1= 803.27 (1.17)

E) FACTEUR BLOC

X0= 744.15 (-6.28) X1= 801.24 (0.91) X2= 836.59 (5.36)

F) INTERACTION PLANTE-AMENDEMENT

55

X00= 778.04 (-2.01)	X10= 765.18 (-3.63)	X20= 716.39 (-9.77)
X01= 767.52 (-3.33)	X11= 772.07 (-2.76)	X21= 739.58 (-6.85)
X02= 854.60 (7.63)	X12= 809.12 (1.91)	X22= 794.20 (0.03)
X03= 846.79 (6.65)	X13= 840.23 (5.82)	X23= 844.16 (6.32)

G) INTERACTION PLANTE-SUBSIDIAIRE

X00= 802.16 (1.03)	X10= 792.03 (-0.25)	X20= 759.93 (-4.29)
X01= 821.32 (3.44)	X11= 801.27 (0.92)	X21= 787.23 (-0.85)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00= 724.08 (-8.80)	X10= 766.36 (-3.48)	X20= 808.44 (1.82)
X30= 839.94 (5.79)	X01= 782.33 (-1.47)	X11= 753.08 (-5.15)
X21= 830.17 (4.56)	X31= 847.51 (6.74)	

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000= 751.50 (-5.35)	X001= 804.58 (1.33)	X010= 771.56 (-2.82)
X011= 763.48 (-3.84)	X020= 833.49 (4.98)	X021= 875.70 (10.29)
X030= 852.08 (7.32)	X031= 841.51 (5.98)	X100= 745.14 (-6.15)
X101= 785.23 (-1.10)	X110= 768.53 (-3.21)	X111= 775.60 (-2.32)
X120= 802.03 (1.01)	X121= 816.22 (2.80)	X130= 852.43 (7.36)
X131= 828.03 (4.29)	X200= 675.61 (-14.91)	X201= 757.17 (-4.64)
X210= 758.98 (-4.41)	X211= 720.18 (-9.30)	X220= 789.81 (-0.53)
X221= 798.58 (0.58)	X230= 815.32 (2.69)	X231= 873.00 (9.95)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE CHI123= 8.383 CHI12= 1.151 CHI23= 0.000

les 3 variances residuelles des 2 premiers niveaux sont homogenes

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR. GENERALE	6997.4614	-	-
VAR. RESIDUEL.			
1er niveau	14208.1023	-	-
C.V.1	(15.01)	-	-
2eme niveau	6336.3233	-	-
C.V.2	(10.03)	-	-
3eme niveau	2406.4183	-	-
C.V.3	(6.18)	-	-
moyenne1,2et3	0.0000	-	-
C.V.M123	(0.00)	-	-
moyenne1,2	7767.5558	-	-
C.V.M12	(11.10)	-	-
moyenne2,3	0.0000	-	-
C.V.M23	(0.00)	-	-
PLANTE	8862.2052	1.141	0.662
AMENDEMENT	35715.1388	4.598	0.988
SUBSIDIAIRE	6203.9731	2.578	0.882
BLÔC	52216.4403	6.722	0.995
PLTE*AMDT.	1781.8001	0.229	0.038
PLTE*SUBS.	490.9639	0.204	0.182
AMDT*SUBS.	4078.6619	1.695	0.806
PLTE*AMDT*SUBS	1460.6827	0.607	0.276

PARAMETRE: PRR

UNITE: g/plt

NUMERO: 11

1-DONNEES OBSERVEES

	plante1	plante2	plante3
X 0 0 0	16.850	21.300	18.850
X 0 0 1	20.850	21.100	20.250
X 0 0 2	22.250	22.900	18.950
X 0 1 0	20.300	19.750	20.400
X 0 1 1	18.100	18.000	19.650
X 0 1 2	19.200	20.250	18.600
X 1 0 0	18.900	21.850	20.700
X 1 0 1	20.100	19.700	21.000
X 1 0 2	23.100	18.250	25.750
X 1 1 0	17.450	21.100	18.400
X 1 1 1	23.150	21.350	21.000
X 1 1 2	21.300	21.900	20.700
X 2 0 0	17.450	20.050	18.000
X 2 0 1	18.500	21.650	19.500
X 2 0 2	20.500	22.000	19.150
X 2 1 0	21.900	20.300	23.300
X 2 1 1	21.150	18.400	22.000
X 2 1 2	20.700	20.950	22.800
X 3 0 0	22.100	20.350	22.000
X 3 0 1	16.900	20.000	19.900
X 3 0 2	20.400	20.950	21.350
X 3 1 0	19.200	20.800	22.850
X 3 1 1	20.500	22.400	18.250
X 3 1 2	21.250	21.500	21.800

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X...= 20.47

B) PLANTE

X0= 20.09 (-1.88) X1= 20.70 (1.11) X2= 20.63 (0.77)

C) DOSE AMENDEMENT

X0= 19.86 (-2.97) X1= 20.87 (1.95) X2= 20.46 (-0.06)
X3= 20.49 (1.05)

D) FACTEUR SUBSIDIAIRE

X0= 20.37 (-0.45) X1= 20.57 (0.49)

E) FACTEUR BLOC

X0= 20.17 (-1.47) X1= 20.14 (-1.62) X2= 21.10 (3.06)

F) INTERACTION PLANTE-AMENDEMENT

X00=	19.59 (-4.30)	X10=	20.55 (0.38)	X20=	19.45 (-5.00)
X01=	20.67 (0.95)	X11=	20.69 (1.07)	X21=	21.26 (3.84)
X02=	20.03 (-2.15)	X12=	20.56 (0.42)	X22=	20.79 (1.56)
X03=	20.06 (-2.03)	X13=	21.00 (2.57)	X23=	21.02 (2.70)

G) INTERACTION PLANTE-SUBSIDIAIRE

X00=	19.82 (-3.16)	X10=	20.64 (1.80)	X20=	20.45 (-0.11)
X01=	20.35 (-0.60)	X11=	20.56 (0.42)	X21=	20.81 (1.66)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00=	20.37 (-0.52)	X10=	21.04 (2.76)	X20=	19.64 (-4.05)
X30=	20.44 (-0.17)	X01=	19.36 (-5.43)	X11=	20.71 (1.14)
X21=	21.26 (3.93)	X31=	20.95 (2.33)		

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000=	19.98 (-2.39)	X001=	19.20 (-6.22)	X010=	20.70 (1.11)
X011=	20.63 (0.78)	X020=	18.82 (-8.09)	X021=	21.25 (3.80)
X030=	19.80 (-3.29)	X031=	20.32 (-0.76)	X100=	21.77 (6.32)
X101=	19.33 (-5.57)	X110=	19.93 (-2.64)	X111=	21.45 (4.77)
X120=	21.23 (3.71)	X121=	19.88 (-2.88)	X130=	20.43 (-0.15)
X131=	21.57 (5.34)	X200=	19.35 (-5.49)	X201=	19.55 (-4.51)
X210=	22.48 (9.82)	X211=	20.03 (-2.15)	X220=	18.88 (-7.76)
X221=	22.70 (10.88)	X230=	21.08 (2.98)	X231=	20.97 (2.41)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE CHI123= 0.652 CHI12= 0.000 CHI23= 0.000

les 3 variances residuelles sont homogenes

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR.GENERALE	2.8711	-	-
VAR.RESIDUEL.			
1er niveau	1.3039	-	-
C.V.1	(5.58)	-	-
2eme niveau	2.4250	-	-
C.V.2	(7.91)	-	-
3eme niveau	2.3900	-	-
C.V.3	(7.55)	-	-
moyenne1,2et3	2.3875	-	-
C.V.M123	(7.55)	-	-
moyenne1,2	0.0000	-	-
C.V.M12	(0.00)	-	-
moyenne2,3	0.0000	-	-
C.V.M23	(0.00)	-	-
PLANTE	2.7022	1.132	0.668
AMENDEMENT	3.4774	1.457	0.762
SUBSIDIAIRE.	0.7300	0.306	0.410
BLOC	7.1784	3.007	0.942
PLTE*AMDT.	0.9483	0.397	0.123
PLTE*SUBS.	1.0969	0.459	0.360
AMDT*SUBS.	5.8336	2.443	0.925
PLTE*AMDT*SUBS.	6.2853	2.633	0.972

PARAMETRE: NET

UNITE: epis/plt

NUMERO: 20

1-DONNEES OBSERVEES

	plante1	plante2	plante3
X 0 0 0	0.936	0.895	0.937
X 0 0 1	0.950	0.968	0.915
X 0 0 2	0.987	0.974	0.949
X 0 1 0	0.962	0.957	1.014
X 0 1 1	0.943	0.931	1.000
X 0 1 2	0.963	0.975	0.981
X 1 0 0	0.988	0.981	1.030
X 1 0 1	0.988	0.962	0.963
X 1 0 2	0.956	0.951	1.021
X 1 1 0	0.955	0.951	0.954
X 1 1 1	0.975	0.902	1.000
X 1 1 2	1.019	0.975	0.956
X 2 0 0	1.006	0.994	0.963
X 2 0 1	0.957	0.981	0.981
X 2 0 2	1.000	0.936	0.962
X 2 1 0	0.968	0.968	0.974
X 2 1 1	0.905	0.954	0.975
X 2 1 2	0.988	0.938	0.981
X 3 0 0	0.994	0.988	0.917
X 3 0 1	0.964	0.981	0.952
X 3 0 2	0.969	0.937	1.000
X 3 1 0	0.947	1.031	0.975
X 3 1 1	0.932	0.943	0.981
X 3 1 2	1.006	1.028	0.994

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X...= 0.97

B) PLANTE

X0= 0.97 (0.05) X1= 0.96 (-0.61) X2= 0.97 (0.56)

C) DOSE AMENDEMENT

X0= 0.96 (-1.13) X1= 0.97 (0.53) X2= 0.97 (-0.01)
X3= 0.97 (0.61)

D) FACTEUR SUBSIDIAIRE

X0= 0.97 (-0.10) X1= 0.97 (0.10)

E) FACTEUR BLOC

X0= 0.97 (0.17) X1= 0.96 (-1.04) X2= 0.98 (0.87)

F) INTERACTION PLANTE-AMENDEMENT

61.

X00=	0.96 (-1.21)	X10=	0.95 (-1.90)	X20=	0.97 (-0.27)
X01=	0.98 (1.18)	X11=	0.95 (-1.54)	X21=	0.99 (1.94)
X02=	0.97 (0.23)	X12=	0.96 (-0.68)	X22=	0.97 (0.43)
X03=	0.97 (0.02)	X13=	0.98 (1.68)	X23=	0.97 (0.13)

G) INTERACTION PLANTE-SUBSIDIAIRE

X00=	0.97 (0.62)	X10=	0.96 (-0.63)	X20=	0.97 (-0.28)
X01=	0.96 (-0.51)	X11=	0.96 (-0.59)	X21=	0.98 (1.40)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00=	0.95 (-2.35)	X10=	0.98 (1.40)	X20=	0.98 (0.72)
X30=	0.97 (-0.17)	X01=	0.97 (0.10)	X11=	0.97 (-0.35)
X21=	0.96 (-0.74)	X31=	0.98 (1.39)		

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000=	0.96 (-1.10)	X001=	0.96 (-1.31)	X010=	0.98 (0.87)
X011=	0.98 (1.48)	X020=	0.99 (1.98)	X021=	0.95 (-1.52)
X030=	0.98 (0.72)	X031=	0.96 (-0.69)	X100=	0.95 (-2.33)
X101=	0.95 (-1.48)	X110=	0.96 (-0.40)	X111=	0.94 (-2.68)
X120=	0.97 (0.18)	X121=	0.95 (-1.55)	X130=	0.97 (0.02)
X131=	1.00 (3.33)	X200=	0.93 (-3.61)	X201=	1.00 (3.08)
X210=	1.00 (3.73)	X211=	0.97 (0.16)	X220=	0.97 (0.01)
X221=	0.98 (0.85)	X230=	0.96 (-1.26)	X231=	0.98 (1.52)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE CHI123= 0.345 CHI12= 0.000 CHI23= 0.000
 les 3 variances residuelles sont homogenes

4-ANALYSE DE VARIANCE

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR.GENERALE	0.0009	-	-
VAR.RESIDUEL			
1er niveau	0.0006	-	-
C.V.1	(2.49)	-	-
2eme niveau	0.0007	-	-
C.V.2	(2.70)	-	-
3eme niveau	0.0008	-	-
C.V.3	(3.00)	-	-
moyenne1,2et3	0.0008	-	-
C.V.M123	(2.85)	-	-
moyenne1,2	0.0000	-	-
C.V.M12	(0.00)	-	-
moyenne2,3	0.0000	-	-
C.V.M23	(0.00)	-	-
PLANTE	0.0008	1.019	0.630
AMENDEMENT	0.0011	1.417	0.751
SUBSIDIAIRE	0.0001	0.087	0.233
BLOC	0.0021	2.759	0.928
PLTE*AMDT.	0.0007	0.952	0.469
PLTE*SUBS.	0.0011	1.475	0.762
AMDT*SUBS.	0.0019	2.490	0.929
PLTE*AMDT*SUBS.	0.0010	1.349	0.745

PARAMETRE: GRU

UNITE: g

NUMERO: 27 /

63.

1-DONNEES OBSERVEES

	plante1	plante2	plante3
X 0 0 0	248.680	249.040	255.160
X 0 0 1	251.840	251.560	249.680
X 0 0 2	272.480	268.600	260.760
X 0 1 0	245.120	237.320	237.160
X 0 1 1	253.720	252.890	272.040
X 0 1 2	256.200	261.720	249.760
X 1 0 0	251.120	255.680	255.720
X 1 0 1	263.880	250.040	279.960
X 1 0 2	268.360	253.400	275.200
X 1 1 0	246.120	249.120	227.360
X 1 1 1	264.640	264.280	262.960
X 1 1 2	256.480	246.890	256.320
X 2 0 0	250.280	257.520	254.680
X 2 0 1	252.840	289.120	264.200
X 2 0 2	268.890	285.480	263.840
X 2 1 0	280.120	273.090	244.640
X 2 1 1	251.520	266.760	255.160
X 2 1 2	277.000	248.200	267.360
X 3 0 0	258.600	257.480	243.960
X 3 0 1	281.560	262.880	252.320
X 3 0 2	246.800	264.520	263.840
X 3 1 0	262.600	270.600	261.000
X 3 1 1	266.840	266.000	244.600
X 3 1 2	258.280	260.960	271.520

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X... = 259.25

B) PLANTE

X0 = 260.16 (0.35) X1 = 260.55 (0.50) X2 = 257.05 (-0.65)

C) DOSE AMENDEMENT

X0 = 255.21 (-1.56) X1 = 257.08 (-0.84) X2 = 263.93 (1.80)
X3 = 260.85 (0.60)

D) FACTEUR SUBSIDIAIRE

X0 = 261.11 (0.72) X1 = 257.40 (-0.72)

E) FACTEUR BLOC

X0 = 253.01 (-2.41) X1 = 262.14 (1.11) X2 = 262.62 (1.30)

F) INTERACTION PLANTE-AMENDEMENT

X00= 256.34 (-1.12)	X10= 255.19 (-1.57)	X20= 254.09 (-1.99)
X01= 258.43 (-0.32)	X11= 253.23 (-2.32)	X21= 259.59 (0.13)
X02= 263.44 (1.61)	X12= 270.03 (4.16)	X22= 256.31 (-0.36)
X03= 262.45 (1.23)	X13= 263.74 (1.73)	X23= 256.21 (-1.19)

G) INTERACTION PLANTE-SUBSIDIAIRE

X00= 260.44 (0.46)	X10= 262.94 (1.42)	X20= 259.94 (0.27)
X01= 259.89 (0.24)	X11= 258.15 (-0.43)	X21= 254.16 (-1.97)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00= 258.64 (-0.24)	X10= 261.48 (0.66)	X20= 265.20 (2.30)
X30= 259.11 (-0.06)	X01= 251.77 (-2.89)	X11= 252.68 (-2.53)
X21= 262.65 (1.31)	X31= 262.49 (1.25)	

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000= 261.00 (0.67)	X001= 251.68 (-2.92)	X010= 261.12 (0.72)
X011= 255.75 (-1.35)	X020= 257.33 (-0.74)	X021= 269.55 (3.97)
X030= 262.32 (1.18)	X031= 262.57 (1.28)	X100= 259.73 (0.18)
X101= 250.64 (-3.32)	X110= 253.04 (-2.40)	X111= 253.43 (-2.25)
X120= 277.37 (6.99)	X121= 262.68 (1.32)	X130= 261.63 (0.92)
X131= 265.85 (2.55)	X200= 255.20 (-1.56)	X201= 252.99 (-2.42)
X210= 270.29 (4.26)	X211= 248.88 (-4.00)	X220= 260.91 (0.64)
X221= 255.72 (-1.36)	X230= 253.37 (-2.27)	X231= 259.04 (-0.08)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE CHI123= 1.102 CHI12= 0.000 CHI23= 0.000
 les 3 variances residuelles sont homogenes

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR. GENERALE	135.1096	-	-
VAR. RESIDUEL.			
1er niveau	71.6953	-	-
C.V.1	(3.27)	-	-
2eme niveau	137.1393	-	-
C.V.2	(4.52)	-	-
3eme niveau	91.5472	-	-
C.V.3	(3.69)	-	-
moyenne1,2et3	107.6613	-	-
C.V.M123	(4.00)	-	-
moyenne1,2	0.0000	-	-
C.V.M12	(0.00)	-	-
moyenne2,3	0.0000	-	-
C.V.M23	(0.00)	-	-
PLANTE	88.3023	0.820	0.450
AMENDEMENT	271.8297	2.525	0.932
SUBSIDIAIRE	248.0507	2.304	0.868
BLOC	703.8922	6.538	0.997
PLTE*AMDT.	97.4121	0.905	0.499
PLTE*SUBS.	46.2890	0.430	0.341
AMDT*SUBS.	131.3418	1.220	0.687
PLTE*AMDT*SUBS.	153.5587	1.426	0.776

PARAMETRE: PTFR

UNITE: g/plt

NUMERO: 12

1-DONNEES OBSERVEES

	plante1	plante2	plante3
X 0 0 0	90.683	82.030	117.051
X 0 0 1	105.293	125.252	106.949
X 0 0 2	128.525	140.422	95.982
X 0 1 0	104.790	83.631	128.826
X 0 1 1	83.681	104.506	118.025
X 0 1 2	99.242	115.069	85.534
X 1 0 0	86.152	104.798	106.698
X 1 0 1	89.671	108.004	153.145
X 1 0 2	120.760	116.307	157.479
X 1 1 0	100.100	111.082	72.513
X 1 1 1	116.080	121.451	99.626
X 1 1 2	99.132	117.629	110.750
X 2 0 0	104.541	102.532	91.708
X 2 0 1	117.605	133.695	99.881
X 2 0 2	151.387	130.109	103.596
X 2 1 0	117.736	127.728	127.086
X 2 1 1	107.523	121.957	123.494
X 2 1 2	106.664	110.464	133.130
X 3 0 0	118.704	122.854	125.823
X 3 0 1	102.220	164.324	90.585
X 3 0 2	95.869	95.907	105.630
X 3 1 0	129.574	97.807	144.006
X 3 1 1	99.363	102.736	90.894
X 3 1 2	106.026	124.333	126.881

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X...= 112.00

B) PLANTE

X0= 107.56 (-3.97) X1= 115.32 (2.66) X2= 113.14 (1.01)

C) DOSE AMENDEMENT

X0= 106.58 (-4.84) X1= 110.63 (-1.22) X2= 117.27 (4.70)
X3= 113.53 (1.36)

D) FACTEUR SUBSIDIAIRE

X0= 113.75 (1.56) X1= 110.25 (-1.56)

E) FACTEUR BLOC

X0= 108.27 (-3.33) X1= 112.04 (0.03) X2= 115.70 (3.30)

F) INTERACTION PLANTE-AMENDEMENT

X00= 102.04 (-8.90)	X10= 108.98 (-2.69)	X20= 108.73 (-2.92)
X01= 101.98 (-8.95)	X11= 113.21 (1.08)	X21= 116.70 (4.19)
X02= 117.58 (4.98)	X12= 121.08 (8.10)	X22= 113.15 (1.02)
X03= 108.63 (-3.02)	X13= 117.99 (5.35)	X23= 113.97 (1.76)

G) INTERACTION PLANTE-SUBSIDIAIRE

X00= 109.28 (-2.43)	X10= 119.10 (6.34)	X20= 112.88 (0.78)
X01= 105.83 (-5.52)	X11= 111.53 (-0.42)	X21= 113.46 (1.24)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00= 110.58 (-1.27)	X10= 115.89 (3.47)	X20= 115.01 (2.68)
X01= 113.55 (1.38)	X01= 102.59 (-8.41)	X11= 105.37 (-5.92)
X21= 119.53 (6.72)	X31= 113.51 (1.35)	

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000= 108.17 (-3.43)	X001= 95.90 (-14.37)	X010= 98.86 (-11.73)
X011= 105.10 (-6.16)	X020= 124.51 (11.17)	X021= 110.64 (-1.22)
X030= 105.60 (-5.72)	X031= 111.65 (-0.31)	X100= 116.99 (4.37)
X101= 101.07 (-9.76)	X110= 109.70 (-2.05)	X111= 116.72 (4.21)
X120= 122.11 (9.03)	X121= 120.05 (7.18)	X130= 127.70 (14.01)
X131= 108.29 (-3.31)	X200= 106.66 (-4.77)	X201= 110.80 (-1.08)
X210= 139.11 (24.20)	X211= 94.30 (-15.81)	X220= 98.40 (-12.15)
X221= 127.90 (14.20)	X230= 107.35 (-4.16)	X231= 120.59 (7.67)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE CHI123= 2.549 CHI12= 0.000 CHI23= 0.000
 les 3 variances residuelles sont homogenes

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR.GENERALE	344.6310	-	-
VAR.RESIDUEL.			
1er niveau	376.7365	-	-
C.V.1	(17.33)	-	-
2eme niveau	456.4237	-	-
C.V.2	(19.07)	-	-
3eme niveau	223.9854	-	-
C.V.3	(13.36)	-	-
moyenne1,2et3	328.1701	-	-
C.V.M123	(16.17)	-	-
moyenne1,2	0.0000	-	-
C.V.M12	(0.00)	-	-
moyenne2,3	0.0000	-	-
C.V.M23	(0.00)	-	-
PLANTE	384.6973	1.172	0.681
AMENDEMENT	367.8976	1.121	0.649
SUBSIDIAIRE	220.8551	0.673	0.422
BLOC	331.4582	1.010	0.626
PLTE*AMDT.	96.8897	0.295	0.065
PLTE*SUBS.	98.1786	0.299	0.253
AMDT*SUBS.	218.6969	0.666	0.420
PLTE*AMDT*SUBS.	863.7223	2.632	0.972

PARAMETRE: PAR

UNITE: q/plt

NUMERO: 23

1--DONNEES OBSERVEES

	plante1	plante2	plante3
X 0 0 0	107.533	103.330	135.901
X 0 0 1	126.143	149.352	127.199
X 0 0 2	150.775	163.322	114.932
X 0 1 0	125.090	103.381	149.226
X 0 1 1	101.781	122.506	137.675
X 0 1 2	118.442	135.319	104.134
X 1 0 0	105.052	126.648	127.398
X 1 0 1	109.771	127.704	174.145
X 1 0 2	143.860	134.557	183.229
X 1 1 0	117.550	132.182	90.913
X 1 1 1	139.230	142.801	120.626
X 1 1 2	120.432	139.529	131.450
X 2 0 0	121.991	122.582	109.708
X 2 0 1	136.105	155.345	119.381
X 2 0 2	171.887	152.109	122.746
X 2 1 0	139.636	148.028	150.386
X 2 1 1	128.673	140.357	145.494
X 2 1 2	127.364	131.414	155.930
X 3 0 0	140.804	143.204	147.823
X 3 0 1	119.120	184.324	110.485
X 3 0 2	116.269	116.857	126.980
X 3 1 0	148.774	118.607	166.856
X 3 1 1	119.863	125.136	109.144
X 3 1 2	127.276	145.833	148.681

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X...= 132.48

B) PLANTE

X0= 127.64 (-3.65) X1= 136.02 (2.67) X2= 133.77 (0.98)

C) DOSE AMENDEMENT

X0= 126.45 (-4.55) X1= 131.50 (-0.73) X2= 137.73 (3.97)
X3= 134.22 (1.32)

D) FACTEUR SUBSIDIAIRE

X0= 134.13 (1.25) X1= 130.83 (-1.25)

E) FACTEUR BLOC

X0= 128.44 (-3.05) X1= 132.18 (-0.22) X2= 136.81 (3.27)

F) INTERACTION PLANTE-AMENDEMENT

70.

X00= 121.63 (-8.19)	X10= 129.53 (-2.22)	X20= 126.16 (-3.24)
X01= 122.65 (-7.42)	X11= 133.90 (1.02)	X21= 137.96 (4.14)
X02= 137.61 (3.87)	X12= 141.64 (6.92)	X22= 133.94 (1.11)
X03= 128.68 (-2.86)	X13= 138.99 (4.92)	X23= 134.99 (1.90)

G) INTERACTION PLANTE-SUBSIDIAIRE

X00= 129.11 (-2.54)	X10= 139.94 (5.64)	X20= 133.33 (0.64)
X01= 126.18 (-4.76)	X11= 132.09 (-0.29)	X21= 134.21 (1.31)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00= 130.94 (-1.16)	X10= 136.93 (3.36)	X20= 134.65 (1.64)
X30= 133.99 (1.14)	X01= 121.95 (-7.95)	X11= 126.08 (-4.83)
X21= 140.81 (6.29)	X31= 134.46 (1.50)	

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000= 128.15 (-3.27)	X001= 115.10 (-13.11)	X010= 119.56 (-9.75)
X011= 125.74 (-5.09)	X020= 143.33 (8.19)	X021= 131.89 (-0.44)
X030= 125.40 (-5.34)	X031= 131.97 (-0.38)	X100= 138.67 (4.67)
X101= 120.40 (-9.11)	X110= 129.64 (-2.14)	X111= 138.17 (4.30)
X120= 143.34 (8.20)	X121= 139.93 (5.63)	X130= 148.13 (11.82)
X131= 129.86 (-1.98)	X200= 126.01 (-4.88)	X201= 130.35 (-1.61)
X210= 161.59 (21.98)	X211= 114.33 (-13.70)	X220= 117.28 (-11.47)
X221= 150.60 (13.68)	X230= 128.43 (-3.05)	X231= 141.56 (6.86)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE CHI123= 2.722 CHI12= 0.000 CHI23= 0.000

les 3 variances residuelles sont homogenes

4-ANALYSE DE VARIANCE

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR.GENERALE	380.2910	-	-
VAR.RESIDUEL.			
1er niveau	369.5618	-	-
C.V.1	(14.51)	-	-
2eme niveau	509.0596	-	-
C.V.2	(17.03)	-	-
3eme niveau	242.3937	-	-
C.V.3	(11.75)	-	-
moyenne1,2et3	357.7994	-	-
C.V.M123	(14.28)	-	-
moyenne1,2	0.0000	-	-
C.V.M12	(0.00)	-	-
moyenne2,3	0.0000	-	-
C.V.M23	(0.00)	-	-
PLANTE	450.9181	1.260	0.707
AMENDEMENT	407.7314	1.140	0.657
SUBSIDIAIRE	196.1897	0.548	0.469
BLOC	421.2546	1.177	0.683
PLTE*AMDT.	94.9850	0.265	0.051
PLTE*SUBS.	115.0797	0.322	0.269
AMDT*SUBS.	289.7307	0.810	0.498
PLTE*AMDT*SUBS	951.4836	2.659	0.974

PARAMETRE: PART

UNITE: g/plt

NUMERO: 26

1-DONNEES OBSERVEES

	plante1	plante2	plante3
X 0 0 0	201.276	215.083	227.055
X 0 0 1	237.206	261.675	230.566
X 0 0 2	285.142	294.785	231.252
X 0 1 0	240.645	209.740	265.400
X 0 1 1	212.927	224.900	253.036
X 0 1 2	239.919	253.420	222.735
X 1 0 0	216.385	241.588	238.659
X 1 0 1	214.963	235.002	298.258
X 1 0 2	279.414	254.958	325.732
X 1 1 0	219.565	253.417	180.251
X 1 1 1	271.679	263.552	249.744
X 1 1 2	256.006	267.536	254.297
X 2 0 0	244.818	235.796	217.560
X 2 0 1	248.245	286.550	241.666
X 2 0 2	298.626	283.513	244.019
X 2 1 0	272.254	269.278	274.164
X 2 1 1	255.208	248.022	275.429
X 2 1 2	258.091	264.335	280.874
X 3 0 0	266.774	274.336	264.756
X 3 0 1	217.333	302.743	238.747
X 3 0 2	240.678	239.251	259.237
X 3 1 0	262.470	233.542	310.679
X 3 1 1	246.537	268.890	227.934
X 3 1 2	263.915	271.071	273.274

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X...= 252.62

B) PLANTE

X0= 247.92 (-1.86) X1= 256.37 (1.49) X2= 253.56 (0.37)

C) DOSE AMENDMENT

X0= 239.26 (-5.29) X1= 251.17 (-0.57) X2= 261.02 (3.33)
X3= 259.01 (2.53)

D) FACTEUR SUBSIDIAIRE

X0= 252.60 (-0.01) X1= 252.63 (0.01)

E) FACTEUR BLOC

X0= 243.15 (-3.75) X1= 250.45 (-0.86) X2= 264.25 (4.61)

F) INTERACTION PLANTE-AMENDEMENT

73.

X00= 236.19 (-6.50)	X10= 243.27 (-3.76)	X20= 238.34 (-5.65)
X01= 243.60 (-3.81)	X11= 252.68 (0.02)	X21= 257.82 (2.06)
X02= 262.87 (4.06)	X12= 264.58 (4.74)	X22= 255.62 (1.19)
X03= 249.62 (-1.19)	X13= 264.97 (4.89)	X23= 262.44 (3.89)

G) INTERACTION PLANTE-SUBSIDIAIRE

X00= 245.90 (-2.66)	X10= 260.44 (3.10)	X20= 251.46 (-0.46)
X01= 249.93 (-1.06)	X11= 252.31 (-0.12)	X21= 255.65 (1.20)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00= 242.67 (-3.94)	X10= 256.11 (1.38)	X20= 255.64 (1.20)
X30= 255.98 (1.33)	X01= 235.86 (-6.63)	X11= 246.23 (-2.53)
X21= 266.41 (5.46)	X31= 262.03 (3.73)	

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000= 241.21 (-4.52)	X001= 231.16 (-8.49)	X010= 236.92 (-6.21)
X011= 249.08 (-1.40)	X020= 263.90 (4.47)	X021= 261.85 (3.66)
X030= 241.59 (-4.36)	X031= 257.64 (1.99)	X100= 257.18 (1.81)
X101= 229.35 (-9.21)	X110= 243.85 (-3.47)	X111= 261.50 (3.52)
X120= 268.62 (6.34)	X121= 260.55 (3.14)	X130= 272.10 (7.71)
X131= 257.83 (2.07)	X200= 229.62 (-9.10)	X201= 247.06 (-2.20)
X210= 297.55 (13.83)	X211= 228.10 (-9.71)	X220= 234.41 (-7.21)
X221= 276.82 (9.58)	X230= 254.25 (0.65)	X231= 270.63 (7.13)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE CHI123= 2.949 CHI12= 0.000 CHI23= 0.000

les 3 variances residuelles sont homogenes

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR.GENERALE	737.0050	-	-
VAR.RESIDUEL.			
1er niveau	409.8623	-	-
C.V.1	(8.01)	-	-
2eme niveau	892.6796	-	-
C.V.2	(11.83)	-	-
3eme niveau	427.9949	-	-
C.V.3	(8.19)	-	-
moyenne1,2et3	608.2513	-	-
C.V.M123	(9.76)	-	-
moyenne1,2	0.0000	-	-
C.V.M12	(0.00)	-	-
moyenne2,3	0.0000	-	-
C.V.M23	(0.00)	-	-
PLANTE	444.6170	0.731	0.491
AMENDEMENT	1751.5206	2.880	0.955
SUBSIDIAIRE	0.0174	0.000	0.009
BLOC	2757.7485	4.534	0.984
PLTE*AMDT.	172.1504	0.283	0.059
PLTE*SUBS.	299.6762	0.493	0.380
AMDT*SUBS.	444.7503	0.731	0.458
PLTE*AMDT*SUBS.	1620.3295	2.664	0.974

PARAMETRE: TNGR

UNITE: %

NUMERO: 28

1-DONNEES OBSERVEES

	plante1	plante2	plante3
X 0 0 0	1.460	1.420	1.570
X 0 0 1	1.570	1.470	1.650
X 0 0 2	1.460	1.470	1.430
X 0 1 0	1.450	1.290	1.360
X 0 1 1	1.420	1.500	1.550
X 0 1 2	1.460	1.470	1.390
X 1 0 0	1.340	1.440	1.470
X 1 0 1	1.380	1.510	1.530
X 1 0 2	1.520	1.400	1.580
X 1 1 0	1.420	1.350	1.310
X 1 1 1	1.410	1.540	1.500
X 1 1 2	1.460	1.400	1.450
X 2 0 0	1.410	1.390	1.480
X 2 0 1	1.380	1.640	1.490
X 2 0 2	1.460	1.310	1.430
X 2 1 0	1.500	1.480	1.420
X 2 1 1	1.300	1.580	1.520
X 2 1 2	1.510	1.510	1.520
X 3 0 0	1.300	1.330	1.400
X 3 0 1	1.520	1.400	1.480
X 3 0 2	1.570	1.490	1.410
X 3 1 0	1.450	1.340	1.460
X 3 1 1	1.430	1.520	1.460
X 3 1 2	1.450	1.530	1.490

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

 $\bar{X}_{...} = 1.46$

B) PLANTE

 $X_0 = 1.44 (-1.12) \quad X_1 = 1.47 (0.50) \quad X_2 = 1.47 (0.62)$

C) DOSE AMENDEMENT

 $X_0 = 1.48 (1.29) \quad X_1 = 1.44 (-1.67) \quad X_2 = 1.46 (0.11)$
 $X_3 = 1.44 (-0.34)$

D) FACTEUR SUBSIDIAIRE

 $X_0 = 1.47 (-0.74) \quad X_1 = 1.45 (-0.74)$

E) FACTEUR BLOC

 $X_0 = 1.41 (-3.40) \quad X_1 = 1.51 (3.27) \quad X_2 = 1.46 (0.13)$

F) INTERACTION PLANTE-AMENDEMENT

$X_{00} = 1.47 (0.99)$	$X_{10} = 1.47 (0.53)$	$X_{20} = 1.49 (2.36)$
$X_{01} = 1.42 (-2.66)$	$X_{11} = 1.44 (-1.41)$	$X_{21} = 1.47 (0.87)$
$X_{02} = 1.43 (-2.32)$	$X_{12} = 1.49 (1.67)$	$X_{22} = 1.47 (0.59)$
$X_{03} = 1.45 (-0.49)$	$X_{13} = 1.45 (1.22)$	$X_{23} = 1.43 (-1.75)$

G) INTERACTION PLANTE-SUBSIDIAIRE

$X_{00} = 1.45 (-0.75)$	$X_{10} = 1.47 (0.82)$	$X_{20} = 1.49 (2.19)$
$X_{01} = 1.44 (-1.41)$	$X_{11} = 1.44 (0.19)$	$X_{21} = 1.45 (-0.95)$

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

$X_{00} = 1.52 (4.37)$	$X_{10} = 1.45 (0.19)$	$X_{20} = 1.44 (-1.26)$
$X_{30} = 1.44 (-0.34)$	$X_{01} = 1.43 (-1.79)$	$X_{11} = 1.43 (-2.32)$
$X_{21} = 1.45 (1.48)$	$X_{31} = 1.45 (-0.34)$	

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

$X_{000} = 1.50 (2.93)$	$X_{001} = 1.45 (-0.95)$	$X_{010} = 1.41 (-3.23)$
$X_{011} = 1.43 (-2.09)$	$X_{020} = 1.42 (-3.00)$	$X_{021} = 1.44 (-1.54)$
$X_{030} = 1.44 (0.19)$	$X_{031} = 1.44 (-1.18)$	$X_{100} = 1.52 (4.07)$
$X_{101} = 1.42 (-3.00)$	$X_{110} = 1.45 (-0.72)$	$X_{111} = 1.43 (-2.09)$
$X_{120} = 1.45 (-0.95)$	$X_{121} = 1.52 (4.30)$	$X_{130} = 1.47 (0.87)$
$X_{131} = 1.45 (1.56)$	$X_{200} = 1.55 (5.12)$	$X_{201} = 1.44 (-1.41)$
$X_{210} = 1.53 (4.53)$	$X_{211} = 1.42 (-2.78)$	$X_{220} = 1.46 (0.19)$
$X_{221} = 1.45 (1.79)$	$X_{230} = 1.47 (-2.09)$	$X_{231} = 1.44 (-1.41)$

J-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (PARTLETT)

VALEUR DE $\chi^2_{1123} = 9.585 \quad \chi^2_{112} = 5.097 \quad \chi^2_{123} = 0.642$

les 3 variances residuelles des 2 derniers niveaux sont homogenes

4-ANALYSE DE VARIANCE

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR. GENERALE	0.0072		
VAR. RESIDUEL.			
1er niveau	0.0265	-	-
C.V.1	(11.14)	-	-
2eme niveau	0.0053	-	-
C.V.2	(5.03)	-	-
3eme niveau	0.0037	-	-
C.V.3	(4.18)	-	-
moyenne1,2et3	0.0000	-	-
C.V.M123	(0.00)	-	-
moyenne1,2	0.0000	-	-
C.V.M12	(0.00)	-	-
moyenne2,3	0.0044	-	-
C.V.M23	(4.35)	-	-
PLANTE	0.0049	0.183	0.161
AMENDEMENT	0.0038	0.851	0.476
SUBSIDIAIRE	0.0084	1.913	0.829
BLOC	0.0571	2.157	0.769
PLTE*AMDT.	0.0030	0.687	0.337
PLTE*SUBS.	0.0026	0.595	0.439
AMDT*SUBS.	0.0138	3.113	0.965
PLTE*AMDT*SUBS.	0.0022	0.500	0.194

ESSAI ACSSA-POUEMBOUT

ANNEE: 1985

PARAMETRE: TPGR

UNITE: %

NUMERO: 29

1-DONNEES OBSERVEES

	plante1	plante2	plante3
X 0 0 0	0.220	0.220	0.220
X 0 0 1	0.240	0.240	0.240
X 0 0 2	0.240	0.230	0.220
X 0 1 0	0.220	0.200	0.210
X 0 1 1	0.210	0.230	0.250
X 0 1 2	0.260	0.250	0.210
X 1 0 0	0.210	0.230	0.240
X 1 0 1	0.230	0.220	0.250
X 1 0 2	0.260	0.240	0.160
X 1 1 0	0.210	0.230	0.220
X 1 1 1	0.230	0.220	0.240
X 1 1 2	0.260	0.240	0.230
X 2 0 0	0.240	0.220	0.230
X 2 0 1	0.220	0.220	0.230
X 2 0 2	0.230	0.230	0.230
X 2 1 0	0.230	0.240	0.210
X 2 1 1	0.240	0.230	0.240
X 2 1 2	0.260	0.270	0.260
X 3 0 0	0.260	0.240	0.210
X 3 0 1	0.240	0.230	0.240
X 3 0 2	0.260	0.260	0.230
X 3 1 0	0.240	0.230	0.230
X 3 1 1	0.240	0.240	0.240
X 3 1 2	0.280	0.270	0.270

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X... = 0.23

B) PLANTE

X0 = 0.24 (1.90) X1 = 0.23 (0.12) X2 = 0.23 (-2.02)

C) DOSE AMENDEMENT

X0 = 0.23 (-2.55) X1 = 0.23 (-2.31) X2 = 0.23 (0.30)
X3 = 0.24 (4.56)

D) FACTEUR SUBSIDIAIRE

X0 = 0.23 (-1.24) X1 = 0.24 (1.24)

E) FACTEUR BLOC

X0 = 0.23 (-3.79) X1 = 0.23 (-0.24) X2 = 0.24 (4.03)

F) INTERACTION PLANTE-AMENDEMENT

X00=	0.23 (-1.13)	X10=	0.23 (-2.55)	X20=	0.23 (-3.97)
X01=	0.23 (-0.41)	X11=	0.23 (-1.84)	X21=	0.22 (-4.68)
X02=	0.24 (1.01)	X12=	0.24 (0.30)	X22=	0.23 (-0.41)
X03=	0.25 (8.12)	X13=	0.24 (4.56)	X23=	0.24 (1.01)

G) INTERACTION PLANTE-SUBSIDIAIRE

X00=	-0.24 (1.36)	X10=	0.23 (-1.13)	X20=	0.22 (-3.97)
X01=	0.24 (2.43)	X11=	0.24 (1.36)	X21=	0.23 (-0.06)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00=	-0.23 (-1.84)	X10=	-0.23 (-3.26)	X20=	0.23 (-2.79)
X30=	0.24 (-2.90)	X01=	0.23 (-3.26)	X11=	0.23 (-1.36)
X21=	0.24 (3.38)	X31=	0.25 (6.22)		

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000=	-0.23 (-0.41)	X001=	0.23 (-1.84)	X010=	-0.23 (-0.41)
X011=	0.23 (-0.41)	X020=	0.23 (-1.84)	X021=	0.24 (-3.85)
X030=	0.25 (8.12)	X031=	0.25 (8.12)	X100=	0.23 (-1.84)
X101=	-0.23 (-3.26)	X110=	-0.23 (-1.84)	X111=	-0.23 (-1.84)
X120=	0.22 (-4.68)	X121=	0.25 (5.28)	X130=	0.24 (3.85)
X131=	0.25 (5.28)	X200=	0.23 (-3.26)	X201=	0.22 (-4.68)
X210=	0.22 (-7.53)	X211=	0.23 (-1.84)	X220=	0.23 (-1.84)
X221=	0.24 (-1.01)	X230=	0.23 (-3.26)	X231=	0.25 (5.28)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE CH1123= 4.116 CH112= 5.097 CH123= 0.642

les 3 variances residuelles sont homogenes

4-ANALYSE DE VARIANCE

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR. GENERALE	0.0004		
VAR. RESIDUEL			
1er niveau	0.0010		
C.V.1	(13.19)		
2eme niveau	0.0003		
C.V.2	(7.53)		
3eme niveau	0.0002		
C.V.3	(6.67)		
moyenne1,2et3	0.0003		
C.V.M123	(7.78)		
moyenne1,2	0.0000		
C.V.M12	(0.00)		
moyenne2,3	0.0000		
C.V.M23	(0.00)		
PLANTE	0.0005	1.521	0.772
AMENDEMENT	0.0011	3.247	0.970
SUBSIDIAIRE	0.0006	1.643	0.822
BLOC	0.0020	6.084	0.995
PLTE*AMDT	0.0000	0.150	0.013
PLTE*SUBS.	0.0001	0.201	0.179
AMDT*SUBS.	0.0002	0.740	0.463
PLTE*AMDT*SUBS.	0.0001	0.301	0.067

PARAMETRE: TKGR

UNITE: %

NUMERO: 30

1-DONNEES OBSERVEES

	plante1	plante2	plante3
X 0 0 0	0.340	0.380	0.380
X 0 0 1	0.400	0.380	0.380
X 0 0 2	0.380	0.380	0.330
X 0 1 0	0.330	0.380	0.330
X 0 1 1	0.350	0.330	0.350
X 0 1 2	0.380	0.360	0.360
X 1 0 0	0.350	0.350	0.380
X 1 0 1	0.380	0.360	0.360
X 1 0 2	0.390	0.350	0.380
X 1 1 0	0.340	0.340	0.360
X 1 1 1	0.380	0.380	0.350
X 1 1 2	0.400	0.350	0.350
X 2 0 0	0.350	0.350	0.350
X 2 0 1	0.340	0.310	0.350
X 2 0 2	0.330	0.360	0.350
X 2 1 0	0.330	0.330	0.330
X 2 1 1	0.340	0.300	0.380
X 2 1 2	0.350	0.410	0.390
X 3 0 0	0.390	0.350	0.300
X 3 0 1	0.310	0.360	0.380
X 3 0 2	0.380	0.380	0.360
X 3 1 0	0.360	0.310	0.310
X 3 1 1	0.330	0.380	0.380
X 3 1 2	0.390	0.380	0.390

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X... = 0.36

B) PLANTE

X0 = 0.36 (0.54) X1 = 0.36 (-0.39) X2 = 0.36 (-0.16)

C) DOSE AMEUREMENT

X0 = 0.36 (1.32) X1 = 0.36 (1.63) X2 = 0.35 (-2.87)
X3 = 0.36 (-0.08)

D) FACTEUR SUBSIDIAIRE

X0 = 0.36 (0.47) X1 = 0.36 (-0.47)

E) FACTEUR BLOC

X0 = 0.35 (-3.18) X1 = 0.36 (-0.27) X2 = 0.37 (3.45)

F) INTERACTION PLANTE-AMENDEMENT

X00=	0.37 (1.94)	X10=	0.37 (2.87)	X20=	0.35 (-0.85)
X01=	0.37 (4.27)	X11=	0.36 (-0.85)	X21=	0.36 (1.47)
X02=	0.34 (-4.58)	X12=	0.34 (-4.11)	X22=	0.36 (0.06)
X03=	0.36 (0.54)	X13=	0.36 (0.54)	X23=	0.35 (-1.32)

G) INTERACTION PLANTE-SUBSIDIAIRE

X00=	0.36 (1.01)	X10=	0.36 (0.31)	X20=	0.36 (0.08)
X01=	0.36 (0.08)	X11=	0.35 (-1.09)	X21=	0.36 (-0.35)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00=	0.37 (3.96)	X10=	0.37 (2.40)	X20=	0.34 (-4.11)
X01=	0.36 (-0.39)	X11=	0.35 (-1.32)	X21=	0.36 (0.85)
X02=	0.35 (-1.63)	X12=	0.36 (0.23)		

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000=	0.37 (4.27)	X001=	0.36 (-0.39)	X010=	0.37 (4.27)
X011=	0.37 (4.27)	X020=	0.34 (-5.04)	X021=	0.34 (-4.11)
X030=	0.36 (0.54)	X031=	0.36 (0.54)	X100=	0.38 (6.13)
X101=	0.36 (-0.39)	X110=	0.35 (-1.32)	X111=	0.36 (-0.39)
X120=	0.34 (-5.04)	X121=	0.35 (-3.18)	X130=	0.36 (1.47)
X131=	0.36 (-0.39)	X200=	0.36 (1.47)	X201=	0.35 (-3.18)
X210=	0.37 (4.27)	X211=	0.35 (-1.32)	X220=	0.35 (-2.25)
X221=	0.37 (2.40)	X230=	0.35 (-3.18)	X231=	0.36 (0.54)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE χ^2_{1123} = 7.577 χ^2_{112} = 1.095 χ^2_{123} = 0.642

Les 3 variances résiduelles des 2 premiers niveaux sont homogènes

4-ANALYSE DE VARIANCE

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR. GENERALE	0.0007		
VAR. RESIDUEL.			
1er niveau	0.0005		
C.V.1	(5.93)		
2eme niveau	0.0012		
C.V.2	(9.52)		
3eme niveau	0.0003		
C.V.3	(5.16)		
moyenne1,2et3	0.0000		
C.V.M123	(0.00)		
moyenne1,2	0.0010		
C.V.M12	(8.98)		
moyenne2,3	0.0000		
C.V.M23	(0.00)		
PLANTE	0.0001	0.070	0.068
AMENDEMENT	0.0010	0.941	0.440
SUBSIDIAIRE	0.0002	0.585	0.458
BLOC	0.0034	3.292	0.945
PLTE*AMDT.	0.0004	0.425	0.145
PLTE*SUBS.	0.0000	0.049	0.047
AMDT*SUBS.	0.0006	1.875	0.840
PLTE*AMDT*SUBS.	0.0002	0.461	0.169

PARAMETRE: TMqGR

UNITE: %

NUMERO: 31

1-DONNEES OBSERVEES

plante1

plante2

plante3

X 0 0 0	0.110	0.110	0.110
X 0 0 1	0.110	0.120	0.120
X 0 0 2	0.120	0.120	0.110
X 0 1 0	0.110	0.100	0.100
X 0 1 1	0.100	0.110	0.120
X 0 1 2	0.120	0.130	0.110
X 1 0 0	0.110	0.110	0.110
X 1 0 1	0.100	0.110	0.120
X 1 0 2	0.120	0.110	0.120
X 1 1 0	0.100	0.110	0.110
X 1 1 1	0.110	0.110	0.110
X 1 1 2	0.120	0.110	0.110
X 2 0 0	0.110	0.110	0.110
X 2 0 1	0.110	0.110	0.110
X 2 0 2	0.110	0.110	0.110
X 2 1 0	0.110	0.110	0.100
X 2 1 1	0.110	0.110	0.110
X 2 1 2	0.120	0.120	0.120
X 3 0 0	0.120	0.110	0.100
X 3 0 1	0.110	0.100	0.110
X 3 0 2	0.120	0.120	0.100
X 3 1 0	0.110	0.110	0.110
X 3 1 1	0.110	0.110	0.110
X 3 1 2	0.120	0.120	0.120

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X...= 0.11

B) PLANTE

X0= 0.11 (0.37) X1= 0.11 (0.37) X2= 0.11 (-0.75)

C) DOSE AMENDEMENT

X0= 0.11 (1.00) X1= 0.11 (-0.50) X2= 0.11 (-0.50)
X3= 0.11 (-0.00)

D) FACTEUR SUBSIDIAIRE

X0= 0.11 (0.00) X1= 0.11 (0.00)

E) FACTEUR BLOC

X0= 0.11 (-2.99) X1= 0.11 (-1.12) X2= 0.12 (4.10)

F) INTERACTION PLANTE-AMENDEMENT

85.

X00=	0.11 (0.00)	X10=	0.11 (2.99)	X20=	0.11 (0.00)
X01=	0.11 (-1.49)	X11=	0.11 (-1.49)	X21=	0.11 (1.49)
X02=	0.11 (0.00)	X12=	0.11 (0.00)	X22=	0.11 (-1.49)
X03=	0.11 (2.99)	X13=	0.11 (0.00)	X23=	0.11 (-2.99)

G) INTERACTION PLANTE-SUBSIDIAIRE

X00=	0.11 (0.75)	X10=	0.11 (0.00)	X20=	0.11 (-0.75)
X01=	0.11 (0.00)	X11=	0.11 (0.75)	X21=	0.11 (-0.75)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00=	0.11 (-2.49)	X10=	0.11 (-0.50)	X20=	0.11 (-1.49)
X01=	0.11 (-1.49)	X11=	0.11 (-0.50)	X21=	0.11 (-1.49)
X02=	0.11 (-0.50)	X12=	0.11 (1.49)		

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000=	0.11 (1.49)	X001=	0.11 (-1.49)	X010=	0.11 (-1.49)
X011=	0.11 (-1.49)	X020=	0.11 (-1.49)	X021=	0.11 (1.49)
X030=	0.12 (4.48)	X031=	0.11 (1.49)	X100=	0.12 (4.48)
X101=	0.11 (1.49)	X110=	0.11 (-1.49)	X111=	0.11 (-1.49)
X120=	0.11 (-1.49)	X121=	0.11 (1.49)	X130=	0.11 (-1.49)
X131=	0.11 (-1.49)	X200=	0.11 (-1.49)	X201=	0.11 (-1.49)
X210=	0.12 (4.48)	X211=	0.11 (-1.49)	X220=	0.11 (-1.49)
X221=	0.11 (-1.49)	X230=	0.10 (-7.46)	X231=	0.11 (1.49)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE CHI123= 3.170 CHI12= 1.095 CHI23= 0.642

les 3 variances residuelles sont homogenes

4-ANALYSE DE VARIANCE

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR. GENERALE	0.0000		
VAR. RESIDUEL			
1er niveau	0.0001	-	-
C.V.1	(8.57)	-	-
2eme niveau	0.0000	-	-
C.V.2	(4.99)	-	-
3eme niveau	0.0000	-	-
C.V.3	(4.72)	-	-
moyenne1,2et3	0.0000	-	-
C.V.M123	(5.27)	-	-
moyenne1,2	0.0000	-	-
C.V.M12	(0.00)	-	-
moyenne2,3	0.0000	-	-
C.V.M23	(0.00)	-	-
PLANTE	0.0000	0.361	0.296
AMENDEMENT	0.0000	0.321	0.188
SUBSIDIAIRE	0.0000	0.000	0.005
BLOC	0.0004	11.681	1.000
PLTE*AMDT.	0.0000	1.003	0.565
PLTE*SUBS.	0.0000	0.120	0.113
AMDT*SUBS.	0.0000	1.392	0.744
PLTE*AMDT*SUBS.	0.0000	0.870	0.475

ESSAI ACSSA-POUEMBOUT

ANNEE: 1985

PARAMETRE: TCdrrg

UNITE: %

NUMERO: 32

1-DONNEES OBSERVEES

	plante1	plante2	plante3
X 0 0 0	1.620	4.030	3.550
X 0 0 1	1.430	1.790	3.920
X 0 0 2	2.760	3.480	3.780
X 0 1 0	1.310	3.430	3.520
X 0 1 1	1.280	1.330	3.900
X 0 1 2	2.750	4.460	3.790
X 1 0 0	2.200	1.420	2.090
X 1 0 1	3.570	1.360	1.590
X 1 0 2	2.950	3.160	3.400
X 1 1 0	1.310	1.320	2.020
X 1 1 1	4.640	2.360	1.660
X 1 1 2	2.960	3.690	2.910
X 2 0 0	3.710	1.330	3.570
X 2 0 1	1.300	2.110	4.560
X 2 0 2	2.850	3.360	2.930
X 2 1 0	3.850	1.740	3.410
X 2 1 1	1.490	4.240	4.940
X 2 1 2	3.300	3.010	2.370
X 3 0 0	4.100	3.730	1.730
X 3 0 1	4.670	3.510	1.570
X 3 0 2	4.420	2.350	3.050
X 3 1 0	4.790	3.500	2.250
X 3 1 1	3.740	5.130	1.550
X 3 1 2	3.290	2.690	3.390

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X... = 2.93

B) PLANTE

X0 = 2.93 (0.08) X1 = 2.86 (-2.40) X2 = 2.97 (2.33)

C) DOSE AMENDMENT

X0 = 2.90 (-1.01) X1 = 2.48 (-15.33) X2 = 3.03 (3.43)
X3 = 3.30 (12.91)

D) FACTEUR SUBSIDIAIRE

X0 = 2.87 (-1.87) X1 = 2.96 (1.89)

E) FACTEUR BLOC

X0 = 2.73 (-6.67) X1 = 2.83 (-3.10) X2 = 3.21 (9.77)

F) INTERACTION PLANTE-AMENDEMENT

X00=	1.86 (-36.45)	X10=	3.09 (5.50)	X20=	3.74 (27.95)
X01=	2.93 (0.32)	X11=	2.22 (-24.18)	X21=	2.28 (-22.13)
X02=	2.75 (-4.01)	X12=	2.63 (-10.05)	X22=	3.70 (26.35)
X03=	4.17 (42.47)	X13=	3.46 (19.12)	X23=	2.26 (-22.87)

G) INTERACTION PLANTE-SUBSIDIAIRE

X00=	2.96 (1.29)	X10=	2.64 (-9.91)	X20=	3.01 (2.94)
X01=	2.89 (-1.13)	X11=	3.07 (5.10)	X21=	2.98 (1.71)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00=	2.93 (0.11)	X10=	2.41 (-17.51)	X20=	2.90 (-0.80)
X30=	3.24 (10.83)	X01=	2.86 (-2.13)	X11=	2.54 (-13.15)
X21=	3.15 (7.67)	X31=	3.37 (15.19)		

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000=	1.94 (-33.80)	X001=	1.78 (-35.16)	X010=	2.90 (-0.80)
X011=	2.97 (1.51)	X020=	2.62 (-10.45)	X021=	2.83 (-1.56)
X030=	4.40 (50.28)	X031=	3.94 (34.67)	X100=	3.10 (5.96)
X101=	3.07 (5.05)	X110=	1.98 (-32.32)	X111=	2.45 (-16.03)
X120=	2.27 (-22.53)	X121=	3.00 (2.43)	X130=	3.20 (9.26)
X131=	3.77 (26.97)	X200=	3.75 (26.17)	X201=	3.74 (27.72)
X210=	2.36 (-19.34)	X211=	2.20 (-24.92)	X220=	3.82 (30.57)
X221=	3.57 (22.14)	X230=	2.12 (-27.65)	X231=	2.40 (-18.08)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

-VALEUR DE CHI123= 26.426 - CHI12= 6.307 - CHI23= 22.806

les 3 variances residuelles ne sont pas homogenes

4-ANALYSE DE VARIANCE

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR.GENERALE	1.2208		
VAR.RESIDUEL.			
1er niveau	0.1445		
C.V.1	(12.99)		
2eme niveau	2.2351		
C.V.2	(51.10)		
3eme niveau	0.2429		
C.V.3	(16.84)		
moyenne1,2et3	0.0000		
C.V.M123	(0.00)		
moyenne1,2	0.0000		
C.V.M12	(0.00)		
moyenne2,3	0.0000		
C.V.M23	(0.00)		
PLANTE	0.1149	0.795	0.486
AMENDEMENT	2.1282	0.952	0.438
SUBSIDIAIRE	0.2211	0.910	0.352
BLOC	1.5377	10.642	0.973
PLTE*AMDT.	4.6671	2.088	0.895
PLTE*SUBS.	0.4870	2.005	0.845
AMDT*SUBS.	0.0760	0.313	0.182
PLTE*AMDT*SUBS.	0.1541	0.634	0.297

PARAMETRE: TNTF

UNITE: %

NUMERO: 33

1-DONNEES OBSERVEES

	plantel	plante2	plante3
X 0 0 0	0.890	0.660	0.570
X 0 0 1	0.740	0.740	0.830
X 0 0 2	0.740	0.610	0.550
X 0 1 0	0.680	0.700	0.640
X 0 1 1	0.650	1.030	0.530
X 0 1 2	0.870	0.620	0.840
X 1 0 0	0.780	0.720	0.690
X 1 0 1	0.580	0.840	1.050
X 1 0 2	0.850	0.760	0.680
X 1 1 0	0.650	0.710	0.850
X 1 1 1	0.580	0.850	0.870
X 1 1 2	0.760	0.580	0.610
X 2 0 0	0.740	0.870	0.910
X 2 0 1	1.020	0.810	0.720
X 2 0 2	0.690	0.770	0.670
X 2 1 0	0.860	0.770	0.740
X 2 1 1	0.900	0.750	0.760
X 2 1 2	0.670	0.610	0.850
X 3 0 0	0.860	0.840	0.740
X 3 0 1	0.750	0.840	0.770
X 3 0 2	0.930	0.680	0.750
X 3 1 0	0.650	0.750	0.720
X 3 1 1	0.910	0.670	0.930
X 3 1 2	0.610	0.580	0.770

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X... = 0.75

B) PLANTE

X0 = 0.77 (2.52) X1 = 0.73 (-2.44) X2 = 0.75 (-0.11)

C) DOSE AMENDEMENT

X0 = 0.73 (-2.92) X1 = 0.74 (-1.44) X2 = 0.79 (4.32)
X3 = 0.75 (0.64)

D) FACTEUR SUBSIDIAIRE

X0 = 0.76 (1.29) X1 = 0.74 (-1.29)

E) FACTEUR BLOC

X0 = 0.75 (-0.39) X1 = 0.80 (5.87) X2 = 0.71 (-5.48)

F) INTERACTION PLANTE-AMENDEMENT

X00=	0.89 (5.65)	X10=	0.74 (-2.10)	X20=	0.66 (-12.29)
X01=	0.69 (-8.31)	X11=	0.74 (-1.22)	X21=	0.79 (5.20)
X02=	0.62 (8.53)	X12=	0.78 (1.45)	X22=	0.78 (2.99)
X03=	0.79 (4.32)	X13=	0.69 (-7.66)	X23=	0.78 (3.65)

G) INTERACTION PLANTE-SUBSIDIAIRE

X00=	0.80 (5.98)	X10=	0.75 (-1.00)	X20=	0.74 (-1.11)
X01=	0.75 (-0.89)	X11=	0.72 (-3.82)	X21=	0.76 (0.89)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00=	0.70 (-6.53)	X10=	0.77 (2.62)	X20=	0.80 (6.31)
X30=	0.77 (2.77)	X01=	0.76 (0.70)	X11=	0.71 (-5.50)
X21=	0.77 (2.33)	X31=	0.73 (-2.69)		

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000=	0.79 (4.96)	X001=	0.80 (6.31)	X010=	0.74 (-2.10)
X011=	0.64 (-14.51)	X020=	0.82 (8.53)	X021=	0.82 (8.53)
X030=	0.85 (12.51)	X031=	0.72 (-3.86)	X100=	0.67 (-10.96)
X101=	0.80 (6.76)	X110=	0.77 (2.77)	X111=	0.71 (-5.20)
X120=	0.82 (8.53)	X121=	0.71 (-5.65)	X130=	0.72 (-4.32)
X131=	0.67 (-11.41)	X200=	0.65 (-13.62)	X201=	0.67 (-10.96)
X210=	0.81 (7.20)	X211=	0.78 (3.21)	X220=	0.77 (1.86)
X221=	0.78 (4.10)	X230=	0.75 (0.11)	X231=	0.81 (7.20)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE CHI123= 0.797 CHI12= 6.307 CHI23= 22.806

les 3 variances residuelles sont homogenes

4-ANALYSE DE VARIANCE

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR. GENERALE	0.0137	-	-
VAR. RESIDUEL			
1er niveau	0.0074	-	-
C.V.1	(11.45)	-	-
2eme niveau	0.0159	-	-
C.V.2	(16.75)	-	-
3eme niveau	0.0132	-	-
C.V.3	(15.27)	-	-
moyenne1,2et3	0.0137	-	-
C.V.M123	(15.58)	-	-
moyenne1,2	0.0000	-	-
C.V.M12	(0.00)	-	-
moyenne2,3	0.0000	-	-
C.V.M23	(0.00)	-	-
PLANTE	0.0084	0.615	0.450
AMENDEMENT	0.0099	0.722	0.453
SUBSIDIAIRE	0.0068	0.495	0.492
BLOC	0.0439	3.195	0.951
PLTE*AMDT.	0.0184	1.339	0.741
PLTE*SUS.	0.0067	0.486	0.377
AMDT*SUS.	0.0117	0.848	0.477
PLTE*AMDT*SUS.	0.0068	0.496	0.491

PARAMETRE: TPTF

UNITE: %

NUMERO: 34

1-DONNEES OBSERVEES

	plante1	plante2	plante3
X 0 0 0	0.090	0.070	0.050
X 0 0 1	0.070	0.070	0.080
X 0 0 2	0.060	0.050	0.050
X 0 1 0	0.060	0.060	0.050
X 0 1 1	0.090	0.110	0.040
X 0 1 2	0.060	0.080	0.030
X 1 0 0	0.080	0.070	0.060
X 1 0 1	0.060	0.090	0.090
X 1 0 2	0.070	0.080	0.060
X 1 1 0	0.050	0.070	0.080
X 1 1 1	0.050	0.070	0.070
X 1 1 2	0.050	0.050	0.050
X 2 0 0	0.060	0.100	0.080
X 2 0 1	0.100	0.060	0.070
X 2 0 2	0.060	0.060	0.060
X 2 1 0	0.100	0.080	0.060
X 2 1 1	0.080	0.070	0.070
X 2 1 2	0.060	0.050	0.080
X 3 0 0	0.080	0.070	0.060
X 3 0 1	0.050	0.060	0.080
X 3 0 2	0.090	0.050	0.060
X 3 1 0	0.060	0.060	0.050
X 3 1 1	0.070	0.050	0.080
X 3 1 2	0.050	0.040	0.060

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X...= 0.07

B) PLANTE

X0= 0.07 (2.25) X1= 0.07 (-0.21) X2= 0.07 (-2.08)

C) DOSE AMENDEMENT

X0= 0.07 (0.62) X1= 0.07 (-1.87) X2= 0.07 (8.11)
X3= 0.06 (-6.88)

D) FACTEUR SUBSIDIAIRE

X0= 0.07 (3.12) X1= 0.06 (-3.12)

E) FACTEUR BLOC

X0= 0.07 (2.91) X1= 0.07 (7.28) X2= 0.06 (-10.19)

F) INTERACTION PLANTE-AMENDEMENT

X00=	0.07 (4.78)	X10=	0.07 (9.77)	X20=	0.06 (-12.68)
X01=	0.06 (-10.19)	X11=	0.07 (2.29)	X21=	0.07 (2.29)
X02=	0.08 (14.76)	X12=	0.07 (4.78)	X22=	0.07 (4.78)
X03=	0.07 (-0.21)	X13=	0.06 (-17.67)	X23=	0.07 (-2.70)

G) INTERACTION PLANTE-SUBSIDIAIRE

X00=	0.07 (8.52)	X10=	0.07 (1.04)	X20=	0.07 (-0.21)
X01=	0.06 (-3.95)	X11=	0.07 (-1.46)	X21=	0.06 (-3.95)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00=	0.07 (-1.87)	X10=	0.07 (-6.44)	X20=	0.07 (-8.11)
X30=	0.07 (-0.21)	X01=	0.07 (3.42)	X11=	0.06 (-10.19)
X21=	0.07 (8.11)	X31=	0.06 (-13.51)		

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000=	0.07 (9.77)	X001=	0.07 (-0.21)	X010=	0.07 (4.78)
X011=	0.05 (-25.16)	X020=	0.07 (9.77)	X021=	0.08 (19.75)
X030=	0.07 (9.77)	X031=	0.06 (-10.19)	X100=	0.06 (-5.20)
X101=	0.08 (24.74)	X110=	0.07 (9.77)	X111=	0.06 (-5.20)
X120=	0.07 (9.77)	X121=	0.07 (-0.21)	X130=	0.06 (-10.19)
X131=	0.05 (-25.16)	X200=	0.06 (-10.19)	X201=	0.06 (-15.18)
X210=	0.07 (4.78)	X211=	0.07 (-0.21)	X220=	0.07 (4.78)
X221=	0.07 (4.75)	X230=	0.07 (-0.21)	X231=	0.06 (-5.20)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE CHI123= 0.133 CHI12= 6.307 CHI23= 22.806

les 3 variances residuelles sont homogenes

4-ANALYSE DE VARIANCE -

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR. GENERALE	0.0002		
VAR. RESIDUEL			
1er niveau	0.0002		
C.V.1	(22.52)		
2eme niveau	0.0002		
C.V.2	(20.95)		
3eme niveau	0.0002		
C.V.3	(22.73)		
moyenne1,2et3	0.0002		
C.V.M123	(22.03)		
moyenne1,2	0.0000		
C.V.M12	(-0.00)		
moyenne2,3	0.0000		
C.V.M23	(-0.00)		
PLANTE	0.0001	0.237	0.207
AMENDEMENT	0.0003	1.443	0.758
SUBSIDIAIRE	0.0003	1.443	0.766
BLOC	0.0009	4.084	0.977
PLTE*AMDT.	0.0003	1.212	0.683
PLTE*SUS.	0.0001	0.365	0.299
AMDT*SUS.	0.0002	0.998	0.403
PLTE*AMDT*SUS.	0.0001	0.690	0.340

PARAMETRE: TKTf

UNITE: %

NUMERO: 35

1-DONNEES OBSERVEES

	plante1	plante2	plante3
X 0 0 0	0.910	1.780	1.740
X 0 0 1	1.200	1.430	1.560
X 0 0 2	1.600	1.540	1.610
X 0 1 0	1.200	1.830	1.430
X 0 1 1	1.280	1.510	1.560
X 0 1 2	1.250	1.630	1.730
X 1 0 0	1.280	1.200	1.450
X 1 0 1	1.180	1.200	1.380
X 1 0 2	1.680	1.660	1.430
X 1 1 0	1.960	1.280	1.430
X 1 1 1	1.580	1.530	1.460
X 1 1 2	1.680	1.300	1.660
X 2 0 0	1.530	1.130	1.550
X 2 0 1	1.150	1.250	1.790
X 2 0 2	1.430	1.680	1.190
X 2 1 0	1.630	1.150	1.800
X 2 1 1	1.450	1.880	1.510
X 2 1 2	1.690	1.440	1.340
X 3 0 0	1.550	1.580	1.310
X 3 0 1	1.500	1.380	1.630
X 3 0 2	1.460	1.410	1.850
X 3 1 0	1.680	1.390	1.330
X 3 1 1	1.450	1.650	1.290
X 3 1 2	1.350	1.510	1.850

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X...= 1.48

B) PLANTE

X0= 1.44 (-2.69) X1= 1.47 (-0.81) X2= 1.54 (-3.51)

C) DOSE AMENDEMENT

X0= 1.49 (0.25) X1= 1.45 (-1.43) X2= 1.48 (-0.50)
X3= 1.51 (1.67)

D) FACTEUR SUBSIDIAIRE

X0= 1.45 (-2.33) X1= 1.52 (2.33)

E) FACTEUR BLOC

X0= 1.46 (-1.43) X1= 1.45 (-2.33) X2= 1.54 (3.76)

F) INTERACTION PLANTE-AMENDEMENT

97.

X00=	1.24 (-16.47)	X10=	1.42 (9.12)	X20=	1.60 (8.11)
X01=	1.56 (5.08)	X11=	1.36 (-6.28)	X21=	1.47 (-1.09)
X02=	1.48 (-0.31)	X12=	1.42 (-4.24)	X22=	1.53 (3.06)
X03=	1.50 (0.93)	X13=	1.49 (0.14)	X23=	1.54 (3.96)

G) INTERACTION PLANTE-SUBSIDIAIRE

X00=	1.37 (-7.55)	X10=	1.44 (-3.23)	X20=	1.54 (3.79)
X01=	1.52 (2.16)	X11=	1.51 (1.60)	X21=	1.53 (3.23)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00=	1.49 (0.07)	X10=	1.36 (-6.75)	X20=	1.41 (-4.95)
X01=	1.52 (2.31)	X11=	1.49 (-0.44)	X21=	1.54 (-3.88)
X02=	1.54 (3.56)	X12=	1.50 (1.04)		

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000=	1.24 (-16.70)	X001=	1.24 (-16.25)	X010=	1.38 (-7.04)
X011=	1.74 (17.20)	X020=	1.37 (-7.72)	X021=	1.59 (7.10)
X030=	1.50 (1.26)	X031=	1.49 (0.59)	X100=	1.58 (6.65)
X101=	1.66 (11.59)	X110=	1.35 (-8.84)	X111=	1.37 (-7.72)
X120=	1.35 (-8.84)	X121=	1.49 (0.36)	X130=	1.46 (-1.66)
X131=	1.52 (2.16)	X200=	1.64 (10.24)	X201=	1.57 (5.98)
X210=	1.42 (-4.35)	X211=	1.52 (2.16)	X220=	1.51 (1.71)
X221=	1.55 (4.41)	X230=	1.60 (7.55)	X231=	1.49 (0.36)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE CHI123= 3.109 CHI12= 6.307 CHI23= 22.606

les 3 variances residuelles sont homogenes

4-ANALYSE DE VARIANCE

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR. GENERALE	0.0456	-	-
VAR. RESIDUEL.			
1er niveau	0.0190	-	-
C.V.1	(9.27)	-	-
2eme niveau	0.0639	-	-
C.V.2	(17.02)	-	-
3eme niveau	0.0338	-	-
C.V.3	(12.38)	-	-
moyenne1,2et3	0.0443	-	-
C.V.M123	(14.17)	-	-
moyenne1,2	0.0000	-	-
C.V.M12	(0.00)	-	-
moyenne2,3	0.0000	-	-
C.V.M23	(0.00)	-	-
PLANTE	0.0535	1.208	0.692
AMENDEMENT	0.0065	0.154	0.074
SUBSIDIAIRE	0.0861	1.945	0.834
BLOC	0.0572	1.291	0.716
PLTE*AMDT.	0.1022	2.307	0.951
PLTE*SUBS.	0.0349	0.788	0.464
AMDT*SUBS.	0.0354	0.800	0.497
PLTE*AMDT*SUBS.	0.0144	0.325	0.080

PARAMETRE: NaTF

UNITE: %

NUMERO: 36

1-DONNEES OBSERVEES

	plante1	plante2	plante3
X 0 0 0	0.020	0.020	0.020
X 0 0 1	0.020	0.040	0.030
X 0 0 2	0.020	0.030	0.020
X 0 1 0	0.020	0.020	0.020
X 0 1 1	0.030	0.020	0.030
X 0 1 2	0.030	0.020	0.030
X 1 0 0	0.020	0.020	0.020
X 1 0 1	0.020	0.020	0.020
X 1 0 2	0.030	0.020	0.020
X 1 1 0	0.020	0.020	0.020
X 1 1 1	0.020	0.020	0.020
X 1 1 2	0.030	0.020	0.030
X 2 0 0	0.020	0.020	0.020
X 2 0 1	0.020	0.020	0.020
X 2 0 2	0.020	0.020	0.020
X 2 1 0	0.020	0.020	0.020
X 2 1 1	0.020	0.020	0.020
X 2 1 2	0.020	0.030	0.030
X 3 0 0	0.020	0.020	0.020
X 3 0 1	0.020	0.020	0.020
X 3 0 2	0.030	0.020	0.030
X 3 1 0	0.020	0.030	0.020
X 3 1 1	0.020	0.020	0.020
X 3 1 2	0.020	0.030	0.020

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X...= 0.02

B) PLANTE

X0= 0.02 (-1.24) X1= 0.02 (0.62) X2= 0.02 (0.62)

C) DOSE AMENDEMENT

X0= 0.02 (5.32) X1= 0.02 (-3.11) X2= 0.02 (-5.55)
X3= 0.02 (-0.62)

D) FACTEUR SUBSIDIAIRE

X0= 0.02 (-1.86) X1= 0.02 (1.86)

E) FACTEUR PRINC

X0= 0.02 (-8.70) X1= 0.02 (-1.34) X2= 0.02 (5.94)

F) INTERACTION PLANTE-AMENDEMENT

X00=	0.02 (4.35)	X10=	0.03 (11.50)	X20=	0.03 (11.50)
X01=	0.02 (4.35)	X11=	0.02 (-10.56)	X21=	0.02 (-3.11)
X02=	0.02 (-10.56)	X12=	0.02 (-3.11)	X22=	0.02 (-3.11)
X03=	0.02 (-3.11)	X13=	0.02 (4.35)	X23=	0.02 (-3.11)

G) INTERACTION PLANTE-SUBSIDIAIRE

X00=	0.02 (-3.11)	X10=	0.02 (0.62)	X20=	0.02 (-3.11)
X01=	0.02 (0.62)	X11=	0.02 (0.62)	X21=	0.02 (4.35)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00=	0.02 (-9.32)	X10=	0.02 (-5.59)	X20=	0.02 (-10.56)
X30=	0.02 (-0.62)	X01=	0.02 (9.32)	X11=	0.02 (-0.62)
X21=	0.02 (-0.62)	X31=	0.02 (-0.62)		

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000=	0.02 (-10.56)	X001=	0.03 (19.25)	X010=	0.02 (4.35)
X011=	0.02 (4.35)	X020=	0.02 (-10.56)	X021=	0.02 (-10.56)
X030=	0.02 (4.35)	X031=	0.02 (-10.56)	X100=	0.03 (34.16)
X101=	0.02 (-10.56)	X110=	0.02 (-10.56)	X111=	0.02 (-10.56)
X120=	0.02 (-10.56)	X121=	0.02 (4.35)	X130=	0.02 (-10.56)
X131=	0.03 (19.25)	X200=	0.02 (4.35)	X201=	0.03 (19.25)
X210=	0.02 (-10.56)	X211=	0.02 (4.35)	X220=	0.02 (-10.56)
X221=	0.02 (4.35)	X230=	0.02 (4.35)	X231=	0.02 (-10.56)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE CHI²₂₃= 1.745 CHI²₁₂= 4.397 CHI²₂₃= 22.806
 les 3 variances residuelles sont homogenes

4-ANALYSE DE VARIANCE

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR.GENERALE	0.0000		
VAR.RESIDUEL			
1er niveau	0.0000	-	-
C.V.1	(10.54)	-	-
2eme niveau	0.0000	-	-
C.V.2	(19.24)	-	-
3eme niveau	0.0000	-	-
C.V.3	(17.48)	-	-
moyenne1,2et3	0.0000	-	-
C.V.M123	(17.72)	-	-
moyenne1,2	0.0000	-	-
C.V.M12	(0.00)	-	-
moyenne2,3	0.0000	-	-
C.V.M23	(0.06)	-	-
PLANTE	0.0000	0.088	0.085
AMENDEMENT	0.0000	2.447	0.925
SUBSIDIAIRE	0.0000	0.756	0.381
BLOC	0.0001	6.723	0.997
PLTE*AMDT.	0.0000	0.678	0.330
PLTE*SUBS.	0.0000	0.265	0.229
AMDT*SUBS.	0.0000	0.324	0.190
PLTE*AMDT*SUBS.	0.0001	3.656	0.995

PARAMETRE: δ -TCaTF

UNITE: %

NUMERO: 37

1-DONNEES OBSERVEES

plante1

plante2

plante3

X 0 0 0	0.350	0.210	0.140
X 0 0 1	0.220	0.250	0.230
X 0 0 2	0.260	0.230	0.160
X 0 1 0	0.230	0.210	0.150
X 0 1 1	0.270	0.380	0.140
X 0 1 2	0.280	0.140	0.280
X 1 0 0	0.190	0.210	0.240
X 1 0 1	0.190	0.350	0.300
X 1 0 2	0.220	0.170	0.150
X 1 1 0	0.170	0.250	0.240
X 1 1 1	0.150	0.280	0.300
X 1 1 2	0.190	0.190	0.140
X 2 0 0	0.210	0.200	0.090
X 2 0 1	0.210	0.260	0.130
X 2 0 2	0.230	0.200	0.250
X 2 1 0	0.250	0.300	0.170
X 2 1 1	0.220	0.250	0.150
X 2 1 2	0.280	0.110	0.190
X 3 0 0	0.180	0.140	0.190
X 3 0 1	0.180	0.190	0.280
X 3 0 2	0.250	0.230	0.240
X 3 1 0	0.100	0.120	0.200
X 3 1 1	0.210	0.170	0.280
X 3 1 2	0.200	0.210	0.260

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X...= 0.21

B) PLANTE

X0= 0.22 (2.14) X1= 0.22 (2.34) X2= 0.20 (-4.48)

C) DOSE AMENDEMENT

X0= 0.33 (7.34) X1= 0.22 (2.14) X2= 0.21 (-3.23)
X3= 0.29 (-5.65)

D) FACTEUR SUBSIDIAIRE

X0= 0.21 (0.45) X1= 0.21 (-0.45)

E) FACTEUR BLOC

X0= 0.20 (-7.60) X1= 0.23 (8.97) X2= 0.21 (-1.36)

F) INTERACTION PLANTE-AMENDEMENT

X00=	0.27 (25.54)	X10=	0.24 (10.72)	X20=	0.18 (-14.23)
X01=	0.18 (-13.45)	X11=	0.24 (13.06)	X21=	0.23 (6.82)
X02=	0.23 (9.16)	X12=	0.22 (2.92)	X22=	0.16 (-23.59)
X03=	0.19 (-12.57)	X13=	0.18 (-17.35)	X23=	0.24 (13.06)

G) INTERACTION PLANTE-SUBSIDIAIRE

X00=	0.22 (4.87)	X10=	0.22 (2.92)	X20=	0.20 (-6.43)
X01=	0.21 (-0.58)	X11=	0.22 (1.75)	X21=	0.21 (-2.53)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00=	0.23 (6.56)	X10=	0.22 (5.00)	X20=	0.20 (-7.47)
X01=	0.21 (-2.27)	X11=	0.23 (8.12)	X21=	0.21 (-0.71)
X02=	0.21 (-0.19)	X12=	0.19 (-9.03)		

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000=	0.28 (29.43)	X001=	0.26 (21.64)	X010=	0.20 (-6.43)
X011=	0.17 (-20.47)	X020=	0.22 (1.36)	X021=	0.25 (16.96)
X030=	0.20 (-4.87)	X031=	0.17 (-20.47)	X100=	0.23 (7.60)
X101=	0.24 (13.84)	X110=	0.24 (13.84)	X111=	0.24 (12.28)
X120=	0.22 (2.92)	X121=	0.22 (2.92)	X130=	0.19 (-12.67)
X131=	0.17 (-22.03)	X200=	0.18 (-17.35)	X201=	0.19 (-11.11)
X210=	0.23 (7.60)	X211=	0.23 (6.04)	X220=	0.16 (-26.71)
X221=	0.17 (-20.47)	X230=	0.24 (10.72)	X231=	0.25 (15.40)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE $\chi^2_{123} = 3.521$ $\chi^2_{112} = 6.307$ $\chi^2_{123} = 22.606$

les 3 variances residuelles sont homogènes

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR. GENERALE	0.0035	-	-
VAR. RESIDUEL			
1er niveau	0.0070	-	-
C.V.1	(39.24)	-	-
2eme niveau	0.0041	-	-
C.V.2	(30.13)	-	-
3eme niveau	0.0022	-	-
C.V.3	(21.96)	-	-
moyenne1,2et3	0.0034	-	-
C.V.M123	(27.21)	-	-
moyenne1,2	0.0000	-	-
C.V.M12	(0.00)	-	-
moyenne2,3	0.0000	-	-
C.V.M23	(0.00)	-	-
PLANTE	0.0017	0.489	0.378
AMENDEMENT	0.0029	0.852	0.475
SUBSIDIAIRE	0.0001	0.020	0.117
BLOC	0.0077	2.270	0.887
PLTE*AMDT.	0.0101	2.987	0.925
PLTE*SUBS.	0.0006	0.178	0.161
AMDT*SUBS.	0.0009	0.264	0.148
PLTE*AMDT*SUBS.	0.0005	0.135	0.010

PARAMETRE: TMqTF

UNITE: %

NUMERO: 38

1-DONNEES OBSERVEES

	plante1	plante2	plante3
X 0 0 0	0.440	0.330	0.280
X 0 0 1	0.370	0.390	0.350
X 0 0 2	0.350	0.450	0.320
X 0 1 0	0.340	0.350	0.300
X 0 1 1	0.490	0.400	0.360
X 0 1 2	0.450	0.350	0.360
X 1 0 0	0.370	0.350	0.370
X 1 0 1	0.330	0.390	0.410
X 1 0 2	0.410	0.360	0.360
X 1 1 0	0.330	0.400	0.380
X 1 1 1	0.300	0.370	0.360
X 1 1 2	0.420	0.330	0.350
X 2 0 0	0.380	0.350	0.380
X 2 0 1	0.430	0.510	0.350
X 2 0 2	0.340	0.400	0.340
X 2 1 0	0.350	0.430	0.340
X 2 1 1	0.390	0.340	0.390
X 2 1 2	0.330	0.350	0.400
X 3 0 0	0.400	0.350	0.390
X 3 0 1	0.400	0.320	0.370
X 3 0 2	0.370	0.350	0.360
X 3 1 0	0.320	0.490	0.390
X 3 1 1	0.450	0.340	0.420
X 3 1 2	0.300	0.390	0.310

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X...= 0.37

B) PLANTE

X0= 0.39 (1.23) X1= 0.38 (1.49) X2= 0.36 (-2.91)

C) DOSE AMENDEMENT

X0= 0.37 (-0.45) X1= 0.37 (-1.45) X2= 0.36 (1.50)
X3= 0.35 (0.85)

D) FACTEUR SUBSIDIAIRE

X0= 0.37 (0.04) X1= 0.37 (-0.04)

E) FACTEUR BLOC

X0= 0.37 (-1.56) X1= 0.35 (3.02) X2= 0.37 (-1.45)

F) INTERACTION PLANTE-AMENDEMENT

106

X00=	0.41 (9.05)	X10=	0.38 (1.45)	X20=	0.33 (-11.96)
X01=	0.36 (-3.45)	X11=	0.37 (-1.23)	X21=	0.37 (-0.34)
X02=	0.37 (-0.78)	X12=	0.40 (6.37)	X22=	0.37 (-1.68)
X03=	0.37 (0.11)	X13=	0.37 (0.11)	X23=	0.38 (2.35)

G) INTERACTION PLANTE-SUBSIDIAIRE

X00=	0.38 (2.57)	X10=	0.35 (1.90)	X20=	0.36 (-4.36)
X01=	0.37 (-0.11)	X11=	0.38 (1.45)	X21=	0.37 (-1.45)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00=	0.36 (-2.27)	X10=	0.37 (0.11)	X20=	-0.39 (3.69)
X30=	0.37 (-1.38)	X01=	0.36 (-1.30)	X11=	0.36 (-3.46)
X21=	0.37 (-1.08)	X31=	0.38 (3.09)		

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000=	0.39 (3.69)	X001=	0.43 (14.41)	X010=	0.37 (-0.78)
X011=	0.35 (-6.15)	X020=	0.38 (2.79)	X021=	0.36 (-4.36)
X030=	0.39 (4.58)	X031=	0.36 (-4.36)	X100=	0.39 (4.58)
X101=	0.37 (-1.68)	X110=	0.37 (-0.78)	X111=	0.37 (-1.68)
X120=	0.42 (12.63)	X121=	0.37 (0.11)	X130=	0.34 (-8.83)
X131=	0.41 (9.05)	X200=	0.32 (-15.08)	X201=	0.34 (-8.83)
X210=	0.38 (1.90)	X211=	0.36 (-2.57)	X220=	0.36 (-4.36)
X221=	0.38 (1.01)	X230=	0.37 (0.11)	X231=	0.39 (4.58)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE CHI123= 2.926 CHI12= 6.307 CHI23= 22.806

les 3 variances residuelles sont homogenes

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR. GENERALE	0.0020	-	-
VAR. RESIDUEL.			
1er niveau	0.0005	-	-
C.V.1	(5.78)	-	-
2eme niveau	0.0024	-	-
C.V.2	(13.08)	-	-
3eme niveau	0.0022	-	-
C.V.3	(12.54)	-	-
moyenne1,2et3	0.0021	-	-
C.V.M123	(12.32)	-	-
moyenne1,2	0.0000	-	-
C.V.M12	(0.00)	-	-
moyenne2,3	0.0000	-	-
C.V.M23	(0.00)	-	-
PLANTE	0.0021	1.008	0.626
AMENDEMENT	0.0005	0.216	0.115
SUBSIDIAIRE	0.0000	0.001	0.022
BLOC	0.0023	1.079	0.651
PLTE*AMDT.	0.0031	1.465	0.790
PLTE*SUS.	0.0007	0.312	0.262
AMDT*SUS.	0.0014	0.674	0.424
PLTE*AMDT*SUS.	0.0022	1.038	0.586

PARAMETRE: TCdrstF

UNITE: %

NUMERO: 39

1-DONNEES OBSERVEES

	plante1	plante2	plante3
X 0 0 0	8.340	8.250	7.520
X 0 0 1	8.110	8.490	9.090
X 0 0 2	8.940	9.670	7.880
X 0 1 0	7.770	9.230	7.910
X 0 1 1	9.530	8.910	7.370
X 0 1 2	10.970	7.090	10.470
X 1 0 0	8.360	6.960	7.520
X 1 0 1	8.820	8.900	9.620
X 1 0 2	9.950	9.160	7.380
X 1 1 0	8.210	8.500	8.180
X 1 1 1	7.670	8.760	7.640
X 1 1 2	9.290	8.040	7.830
X 2 0 0	9.210	7.030	7.230
X 2 0 1	8.200	10.050	7.490
X 2 0 2	8.460	9.630	8.560
X 2 1 0	9.650	7.850	9.120
X 2 1 1	7.510	8.910	8.910
X 2 1 2	8.730	7.100	8.170
X 3 0 0	8.970	8.160	7.940
X 3 0 1	9.010	7.170	8.570
X 3 0 2	9.510	8.160	9.600
X 3 1 0	7.200	8.910	7.970
X 3 1 1	11.050	7.870	10.520
X 3 1 2	7.590	7.640	10.120

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X... = 8.53

B) PLANTE

X0 = 8.79 (3.08) X1 = 8.35 (-2.08) X2 = 8.44 (-1.01)

C) DOSE AMENDEMENT

X0 = 8.64 (1.34) X1 = 8.37 (-1.80) X2 = 8.43 (-1.10)
X3 = 8.66 (1.55)

D) FACTEUR SUBSIDIAIRE

X0 = 8.59 (-0.36) X1 = 8.56 (0.36)

E) FACTEUR BLOC

X0 = 8.17 (-4.23) X1 = 8.67 (1.71) X2 = 8.74 (2.52)

F) INTERACTION PLANTE-AMENDEMENT

10

X00=	8.95 (4.91)	X10=	8.61 (0.92)	X20=	8.37 (-1.81)
X01=	8.70 (2.04)	X11=	8.39 (-1.58)	X21=	8.03 (-5.86)
X02=	8.63 (1.16)	X12=	8.43 (-1.17)	X22=	8.25 (-3.30)
X03=	8.89 (4.23)	X13=	7.98 (-6.48)	X23=	9.12 (6.94)

G) INTERACTION PLANTE-SUBSIDIAIRE

X00=	8.83 (3.48)	X10=	8.47 (-0.73)	X20=	8.20 (-3.85)
X01=	8.76 (2.68)	X11=	8.24 (-3.43)	X21=	8.68 (1.83)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00=	8.48 (-0.57)	X10=	8.52 (-0.08)	X20=	8.43 (-1.16)
X30=	8.56 (0.36)	X01=	8.81 (3.26)	X11=	8.23 (-3.52)
X21=	8.44 (-1.04)	X31=	8.76 (2.76)		

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000=	8.47 (-0.69)	X001=	9.42 (10.50)	X010=	9.04 (6.04)
X011=	8.38 (-1.97)	X020=	8.62 (1.12)	X021=	8.63 (1.20)
X030=	9.16 (7.45)	X031=	8.61 (1.00)	X100=	8.80 (3.23)
X101=	8.41 (-1.38)	X110=	9.35 (-2.13)	X111=	8.44 (-1.03)
X120=	8.90 (4.40)	X121=	7.95 (-6.74)	X130=	7.81 (-8.42)
X131=	8.14 (-4.55)	X200=	9.16 (-4.28)	X201=	8.58 (0.65)
X210=	8.17 (-4.16)	X211=	7.88 (-7.56)	X220=	7.76 (-9.00)
X221=	8.73 (2.41)	X230=	8.70 (2.06)	X231=	9.54 (11.83)

3- TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE CHI123= 1.314 CHI12= 6.307 CHI23= 22.806

les 3 variances residuelles sont homogenes

4-ANALYSE DE VARIANCE

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR. GENERALE	0.9557		
VAR. RESIDUEL			
1er niveau	0.4089	-	-
C.V.1	(7.50)	-	-
2eme niveau	1.1361	-	-
C.V.2	(12.50)	-	-
3eme niveau	1.0649	-	-
C.V.3	(12.10)	-	-
moyenne1,2et3	1.0357	-	-
C.V.M123	(11.93)	-	-
moyenne1,2	0.0000	-	-
C.V.M12	(0.00)	-	-
moyenne2,3	0.0000	-	-
C.V.M23	(0.00)	-	-
PLANTE	1.2942	1.250	0.704
AMENDEMENT	0.3792	0.366	0.219
SUBSIDIAIRE	0.0691	0.067	0.207
BLOC	2.3723	2.290	0.889
PLTE*AMDT.	0.7673	0.741	0.379
PLTE*SUBS.	0.8414	0.812	0.454
AMDT*SUBS.	0.3290	0.318	0.185
PLTE*AMDT*SUBS.	0.7324	0.707	0.353

PARAMETRE: TSITF

UNITE: %

NUMERO: 40

1-DONNEES OBSERVEES

	plante1	plante2	plante3
X 0 0 0	4.570	3.740	3.530
X 0 0 1	4.420	4.370	5.060
X 0 0 2	4.590	5.410	3.950
X 0 1 0	4.300	4.640	4.380
X 0 1 1	5.130	4.430	3.420
X 0 1 2	7.060	3.100	5.820
X 1 0 0	4.590	3.600	3.390
X 1 0 1	5.420	4.920	5.540
X 1 0 2	5.490	4.780	3.660
X 1 1 0	3.510	4.850	4.030
X 1 1 1	3.790	4.370	3.650
X 1 1 2	4.830	4.470	3.660
X 2 0 0	5.100	3.540	3.290
X 2 0 1	4.590	6.220	3.090
X 2 0 2	4.540	5.250	5.050
X 2 1 0	5.530	3.880	4.740
X 2 1 1	3.700	4.250	5.076
X 2 1 2	4.340	3.510	4.310
X 3 0 0	4.890	4.330	4.180
X 3 0 1	4.990	3.570	4.070
X 3 0 2	5.310	4.310	4.810
X 3 1 0	3.210	4.990	4.210
X 3 1 1	6.970	3.750	6.440
X 3 1 2	3.970	3.480	5.280

2-MOYENNES ET ECARTS RELATIFS

A) MOYENNE GENERALE

X... = 4.49

B) PLANTE

X0 = 4.78 (6.50) X1 = 4.32 (-3.67) X2 = 4.36 (-2.83)

C) DOSE AMENDEMENT

X0 = 4.55 (1.43) X1 = 4.36 (-2.75) X2 = 4.44 (-0.97)

X3 = 4.59 (2.30)

D) FACTEUR SUBSIDIAIRE

X0 = 4.50 (0.30) X1 = 4.47 (-0.30)

E) FACTEUR BLOC

X0 = 4.21 (-6.22) X1 = 4.63 (3.19) X2 = 4.62 (3.07)

F) INTERACTION PLANTE-AMENDEMENT

X00=	5.01 (11.67)	X10=	4.28 (-4.60)	X20=	4.36 (-2.78)
X01=	4.60 (2.61)	X11=	4.50 (0.23)	X21=	3.99 (-11.10)
X02=	4.53 (3.24)	X12=	4.44 (-1.03)	X22=	4.26 (-5.12)
X03=	4.67 (8.51)	X13=	4.07 (-9.26)	X23=	4.83 (7.66)

G) INTERACTION PLANTE-SUBSIDIAIRE

X00=	4.86 (8.40)	X10=	4.50 (0.34)	X20=	4.14 (-7.83)
X01=	4.69 (4.61)	X11=	4.14 (-7.62)	X21=	4.58 (2.16)

H) INTERACTION AMENDEMENT-SUBSIDIAIRE

X00=	4.41 (-1.81)	X10=	4.60 (-2.47)	X20=	4.52 (-0.69)
X01=	4.48 (-0.13)	X11=	4.70 (-4.67)	X21=	4.13 (-7.98)
X02=	4.37 (-2.63)	X12=	4.70 (-4.72)		

I) INTERACTION PLANTE-AMENDEMENT-SUBSIDIAIRE

X000=	4.53 (-0.86)	X001=	5.50 (22.47)	X010=	5.17 (15.12)
X011=	4.04 (-9.91)	X020=	4.74 (5.69)	X021=	4.52 (0.79)
X030=	5.02 (11.93)	X031=	4.72 (5.09)	X100=	4.51 (0.41)
X101=	4.06 (-9.61)	X110=	4.43 (-1.22)	X111=	4.56 (1.69)
X120=	5.00 (11.46)	X121=	3.88 (-13.55)	X130=	4.07 (-9.31)
X131=	4.07 (-9.24)	X200=	4.19 (-6.72)	X201=	4.54 (-1.16)
X210=	4.20 (-6.49)	X211=	3.78 (-15.70)	X220=	3.81 (-15.11)
X221=	4.71 (4.67)	X230=	4.35 (-3.00)	X231=	5.31 (18.31)

3-TEST D'HOMOGENEITE DES VARIANCES RESIDUELLES (BARTLETT)

VALEUR DE CHI123= 3.044 CHI12= 6.307 CHI23= 22.806

les 3 variances residuelles sont homogenes

4-ANALYSE DE VARIANCE

TRAITEMENT	VARIANCES	F DE FISHER	PROBABILITE DU F DE FISHER
VAR. GENERALE	0.7456	-	-
VAR. RESIDUEL			
1er niveau	0.1748	-	-
C.V.1	(9.32)	-	-
2eme niveau	0.6955	-	-
C.V.2	(18.58)	-	-
3eme niveau	0.8959	-	-
C.V.3	(21.09)	-	-
moyenne1,2et3	0.7548	-	-
C.V.M123	(19.36)	-	-
moyenne1,2	0.0000	-	-
C.V.M12	(0.00)	-	-
moyenne2,3	0.0000	-	-
C.V.M23	(0.00)	-	-
PLANTE	1.5426	2.044	0.861
AMENDEMENT	0.1915	0.254	0.141
SUBSIDIAIRE	0.0133	0.018	0.110
BLOC	1.4045	1.861	0.835
PLTE*AMDT.	0.4976	0.659	0.315
PLTE*SUS.	1.0718	1.420	0.749
AMDT*SUS.	0.5569	0.738	0.462
PLTE*AMDT*SUS.	0.8224	1.090	0.617

