

ANEXOS

Anexo 1 Análisis Físicoquímico de los Microorganismos de Montaña Líquidos

RIMH Laboratorio de Aguas, Suelos, Alimentos y Monitoreo Ambiental.
Laboratorio Acreditado (pH, Turb.) - Cert. Ensayo Aptitud IBMETRO-IDTA-CL-2021-Cel. 72990143 Tarija Bolivia

INFORME DE ENSAYO C(23) 588 Análisis N° 11618

Código: S-212 Empresa: _____
 Descripción: Microorganismos de Montaña Responsable muestreo: Josselin Robi Lajuez Bustamante
 Fase Líquida Fecha de muestreo: 4/11/2023
 Dep./Prov./Mun. Potosí/Modesto Omiste/Villazón Fecha de recepción: 13-11-23

RESULTADOS DE ANALISIS

NUMERO	TIPO DE ANALISIS	SIMBOLOGIA	UNIDADES	RESULTADOS
1	pH (1:5)	pH		4,72
2	Conductividad (1:5)	C.E	mmho/cm	5,06
3	Materia Orgánica (Carbono org.) *	M.O.	%	46,00
4	Textura (Arena, Limo, Arcilla)			No determinado
	% Arcilla		%	No determinado
	% Limo		%	No determinado
	% Arena		%	No determinado
5	Humedad	H%	%	99,62
6	Nitratos (como NO ₃ -)	NO ₃	mg/Kg o ppm	61,92
7	Nitritos (como NO ₂ -)	NO ₂	mg/Kg o ppm	0,26
8	Amoniaco	NH ₃	mg/Kg o ppm	0,02
10	Turbiedad	NTU	NTU	256,00
11	Nitrógeno Total *	Nt	%	0,8000
12	Fósforo	P	mg/Kg o ppm	152,20
13	Cenizas *	SF%	%	19,00
14	Sólidos Volátiles *	SV%	%	81,00
15	Potasio	K ⁺	mg/Kg o ppm	27,20
16	Calcio	Ca ⁺⁺	mg/Kg o ppm	309,00
17	Sodio	Na ⁺	mg/Kg o ppm	118,00
18	Magnesio	Mg ⁺⁺	mg/Kg o ppm	65,57
19	RAS (razón de absorción de sodio)			No determinado
20	Mohos	Recuento en placa	UFC/g	4,00E+04
21	Levaduras	Recuento en placa	UFC/g	1,00E+04
22	C/N			33,35

* Base seca


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LABORATORIO

LOS RESULTADOS CORRESPONDEN A LA MUESTRA PROPORCIONADA Y REPORTADA POR EL CLIENTE

Fuente: RIMH Laboratorio de Agua, Suelos, Alimentos y Monitoreo Ambiental. 2023

Anexo 2 Análisis del compost


 UNIVERSIDAD AUTÓNOMA JUAN MISAEL SARACHO
 FACULTAD DE CIENCIAS AGRÍCOLAS Y FORESTALES
 LABORATORIO DE SUELOS
 Campus "El Tejar" - Tel. 591-4-6643121-Casilla 51-Tarija-Bolivia

INFORME DE LABORATORIO

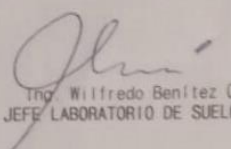
INFORMACION DEL CLIENTE			
NOMBRE: Josselin Ustarez Bustamante			
DIRECCION: Villazon			
DEPARTAMENTO: Potosí		TELEFONO	

INFORMACION DE CAMPO			
PROCEDENCIA:	Villazon/Modesto Omiste/Potosí	Cod: LS-W111-JUB-S	
ENTRADA MUESTRA:	16/11/2023		
INICIO ENSAYO:	20/11/2023	FIN ENSAYO: 21/11/2023	
IDENTIFICACION DE LA MUESTRA:	Micr. de montaña	REF. MUESTRA: Sustrato	


FERTILIDAD DEL SUELO			
PARAMETRO	RESULTADO	CLASIFICACION	METODO
pH H ₂ O 1:2.5	7.53	Alcalinidad Moderada	Electrometrico
C.E. H ₂ O 1:5	2.10 mS/cm	Posible problema salino	Electrometrico
Materia Organica Calcination	65.33 %	Muy Alta	Gravimetrico


MACRONUTRIENTES DEL SUELO			
PARAMETRO	RESULTADO	CLASIFICACION	METODO
Nitrogeno Total	1.37 %		Kejahl
Fosforo Total	0.28 %		Colorimetrico
Potasio Total	0.90 %		Abs Atomica

CONDICIONES DE HABITABILIDAD			
PARAMETRO	RESULTADO	CLASIFICACION	METODO
Relacion C/N	27.62	Mineralizacion lenta	Gravimetria/Calculo



Ing. Wilfredo Benitez O.
JEFE LABORATORIO DE SUELOS





Ing. Pablo Montano
TECNICO LABORATORIO DE SUELOS

Fuente: Laboratorio de Suelos. 2023

Anexo 3 Tabla de Distribución de F 5% de probabilidad de Error

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
1	161,4	199,5	215,7	224,6	230,2	234,0	236,8	238,9	240,5	241,9	243,0	243,9	244,7	245,4	1
2	18,513	19,000	19,164	19,247	19,296	19,330	19,353	19,371	19,385	19,396	19,405	19,413	19,419	19,424	2
3	10,128	9,552	9,277	9,117	9,013	8,941	8,887	8,845	8,812	8,786	8,763	8,745	8,729	8,715	3
4	7,709	6,944	6,591	6,388	6,256	6,163	6,094	6,041	5,999	5,964	5,936	5,912	5,891	5,873	4
5	6,608	5,786	5,409	5,192	5,050	4,950	4,876	4,818	4,772	4,735	4,704	4,678	4,655	4,636	5
6	5,987	5,143	4,757	4,534	4,387	4,284	4,207	4,147	4,099	4,060	4,027	4,000	3,976	3,956	6
7	5,591	4,737	4,347	4,120	3,972	3,866	3,787	3,726	3,677	3,637	3,603	3,575	3,550	3,529	7
8	5,318	4,459	4,066	3,838	3,687	3,581	3,500	3,438	3,388	3,347	3,313	3,284	3,259	3,237	8
9	5,117	4,256	3,863	3,633	3,482	3,374	3,293	3,230	3,179	3,137	3,102	3,073	3,048	3,025	9
10	4,965	4,103	3,708	3,478	3,326	3,217	3,135	3,072	3,020	2,978	2,943	2,913	2,887	2,865	10
11	4,844	3,982	3,587	3,357	3,204	3,095	3,012	2,948	2,896	2,854	2,818	2,788	2,761	2,739	11
12	4,747	3,885	3,490	3,259	3,106	2,996	2,913	2,849	2,796	2,753	2,717	2,687	2,660	2,637	12
13	4,667	3,806	3,411	3,179	3,025	2,915	2,832	2,767	2,714	2,671	2,635	2,604	2,577	2,554	13
14	4,600	3,739	3,344	3,112	2,958	2,848	2,764	2,699	2,646	2,602	2,565	2,534	2,507	2,484	14
15	4,543	3,682	3,287	3,056	2,901	2,790	2,707	2,641	2,588	2,544	2,507	2,475	2,448	2,424	15
16	4,494	3,634	3,239	3,007	2,852	2,741	2,657	2,591	2,538	2,494	2,456	2,425	2,397	2,373	16
17	4,451	3,592	3,197	2,965	2,810	2,699	2,614	2,548	2,494	2,450	2,413	2,381	2,353	2,329	17
18	4,414	3,555	3,160	2,928	2,773	2,661	2,577	2,510	2,456	2,412	2,374	2,342	2,314	2,290	18
19	4,381	3,522	3,127	2,895	2,740	2,628	2,544	2,477	2,423	2,378	2,340	2,308	2,280	2,256	19
20	4,351	3,493	3,098	2,866	2,711	2,599	2,514	2,447	2,393	2,348	2,310	2,278	2,250	2,225	20
21	4,325	3,467	3,072	2,840	2,685	2,573	2,488	2,420	2,366	2,321	2,283	2,250	2,222	2,197	21
22	4,301	3,443	3,049	2,817	2,661	2,549	2,464	2,397	2,342	2,297	2,259	2,226	2,198	2,173	22
23	4,279	3,422	3,028	2,796	2,640	2,528	2,442	2,375	2,320	2,275	2,236	2,204	2,175	2,150	23
24	4,260	3,403	3,009	2,776	2,621	2,508	2,423	2,355	2,300	2,255	2,216	2,183	2,155	2,130	24
25	4,242	3,385	2,991	2,759	2,603	2,490	2,405	2,337	2,282	2,236	2,198	2,165	2,136	2,111	25
26	4,225	3,369	2,975	2,743	2,587	2,474	2,388	2,321	2,265	2,220	2,181	2,148	2,119	2,094	26
27	4,210	3,354	2,960	2,728	2,572	2,459	2,373	2,305	2,250	2,204	2,166	2,132	2,103	2,078	27
28	4,196	3,340	2,947	2,714	2,558	2,445	2,359	2,291	2,236	2,190	2,151	2,118	2,089	2,064	28
29	4,183	3,328	2,934	2,701	2,545	2,432	2,346	2,278	2,223	2,177	2,138	2,104	2,075	2,050	29
30	4,171	3,316	2,922	2,690	2,534	2,421	2,334	2,266	2,211	2,165	2,126	2,092	2,063	2,037	30
31	4,160	3,305	2,911	2,679	2,523	2,409	2,323	2,255	2,199	2,153	2,114	2,080	2,051	2,026	31
32	4,149	3,295	2,901	2,668	2,512	2,399	2,313	2,244	2,189	2,142	2,103	2,070	2,040	2,015	32
33	4,139	3,285	2,892	2,659	2,503	2,389	2,303	2,235	2,179	2,133	2,093	2,060	2,030	2,004	33
35	4,121	3,267	2,874	2,641	2,485	2,372	2,285	2,217	2,161	2,114	2,075	2,041	2,012	1,986	35
∞	3,841	2,996	2,605	2,372	2,214	2,099	2,010	1,938	1,880	1,831	1,789	1,752	1,720	1,692	∞

Fuente: Héctor López, probabilidad y estadística de la facultada regional de Mendoza

Anexo 4 Tabla de Distribución Valores Críticos para la Prueba de Tukey 5% Probabilidad de Error

V ₂	V ₁									
	2	3	4	5	6	7	8	9	10	11
1	18.00	29.98	32.82	37.08	40.41	43.12	45.40	47.36	49.07	50.59
2	6.10	8.33	9.80	10.88	11.74	12.44	13.03	13.54	13.99	14.39
3	4.50	5.91	6.82	7.50	8.04	8.48	8.85	9.18	9.46	9.72
4	3.93	5.04	5.76	6.29	6.71	7.05	7.34	7.60	7.83	8.03
5	3.64	4.60	5.22	5.67	6.03	6.33	6.58	6.80	6.99	7.17
6	3.46	4.34	4.90	5.31	5.63	5.89	6.12	6.32	6.49	6.65
7	3.34	4.16	4.68	5.06	5.36	5.61	5.82	6.00	6.16	6.30
8	3.26	4.04	4.53	4.89	5.17	5.40	5.60	5.77	5.92	6.05
9	3.20	3.95	4.42	4.76	5.02	5.24	5.43	5.60	5.74	5.87
10	3.15	3.88	4.33	4.65	4.91	5.12	5.30	5.46	5.60	5.72
11	3.11	3.82	4.26	4.57	4.82	5.03	5.20	5.35	5.49	5.61

Fuente: Héctor López, probabilidad y estadística de la facultada regional de Mendoza

Anexo 5 Recolección de Hojarascas

Fuente: Elaboración propia.2023

Anexo 6 Inocuo de Microorganismos de Montaña

Fuente: Elaboración propia.2023

Anexo 7 Mezcla de los componentes para la elaboración de los microorganismos de montaña en medio solido

Fuente: Elaboración propia.2023

Anexo 8 Control de los Parámetros de los Microorganismos de Montaña en Medio Solido

Fuente: Elaboración propia.2023

Anexo 9 Microorganismos de Montaña en Medio Liquido

Fuente: Elaboración propia.2023

Anexo 10 Disposición final de los Residuos Solidos

Fuente: Elaboración propia.2023

Anexo 11 Delimitación del Área de las Pilas de Compostaje

Fuente: Elaboración propia.2023

Anexo 12 Formación de las Pilas de Compostaje

Fuente: Elaboración propia.2023

Anexo 13 Pilas de Compostaje con sus Carteles de Identificación

Fuente: Elaboración propia.2023

Anexo 14 Método del Cuarteo



Fuente: Elaboración propia.2023

Anexo 15 Análisis estadístico

Análisis de Varianza de la temperatura máxima de los tratamientos.

```

Data file: [USTAREZ]
Title: tesis en microorganismos

Function: ANOVA-1
Data case no. 1 to 12

One way ANOVA grouped over variable 1 (tratamientos)
with values from 1 to 4.

Variable 3 (temperatura maxima)

      A N A L Y S I S   O F   V A R I A N C E   T A B L E
      Degrees of      Sum of      Mean
      Freedom        Squares     Square
-----
Between      3         102.127      34.042
Within       8           6.453        0.807
-----
Total        11         108.580

Coefficient of Variation = 1.52%

      Var.      V A R I A B L E   No. 3
      1         Number       Sum   Average     SD     SE
-----
      1         3.00         173.500   57.833     0.72   0.52
      2         3.00         174.000   58.000     0.92   0.52
      3         3.00         191.300   63.767     1.37   0.52
      4         3.00         168.000   56.000     0.00   0.52
-----
Total      12.00         706.800   58.900     3.14   0.91
Within
-----
Bartlett's test
-----
Chi-square = 21.775
Number of Degrees of Freedom = 3
Approximate significance = 0.000

WARNING: One or more factor levels have a variance of zero.
This will cause a large Chi-Square value.

```

Prueba de tukey $\alpha=0,050$ de la temperatura máxima de los tratamientos

```

|
Data File : USTAREZ
Title : tesis en microorganismos

Case Range : 13 - 16
Variable 3 : temperatura maxima
Function : RANGE

Error Mean Square = 0.8070
Error Degrees of Freedom = 8
No. of observations to calculate a mean = 3

Tukey's Honestly Significant Difference Test
s_ = 0.5187      at alpha = 0.050
x
|
      Original Order              Ranked Order

Mean   1 =   57.83   B   Mean   3 =   63.77   A
Mean   2 =   58.00   B   Mean   2 =   58.00   B
Mean   3 =   63.77   A   Mean   1 =   57.83   B
Mean   4 =   56.00   B   Mean   4 =   56.00   B
|

```

Prueba de tukey $\alpha=0,010$ de la temperatura máxima de los tratamientos

```

!
Data File : [USTAREZ]
Title : tesis en microorganismos

Case Range : 13 - 16
Variable 3 : temperatura maxima
Function : [RANGE]

Error Mean Square = 0.8070
Error Degrees of Freedom = 8
No. of observations to calculate a mean = 3

Tukey's Honestly Significant Difference Test
s_ = 0.5187      at alpha = 0.010
  x
[
      Original Order              Ranked Order

Mean   1 =   57.83   B   Mean   3 =   63.77   A
Mean   2 =   58.00   B   Mean   2 =   58.00   B
Mean   3 =   63.77   A   Mean   1 =   57.83   B
Mean   4 =   56.00   B   Mean   4 =   56.00   B
^

```

Prueba de Duncan $\alpha=0,010$ de la temperatura máxima de los tratamientos

```

Data File : USTAREZ
Title : tesis en microorganismos

Case Range : 13 - 16
Variable 3 : temperatura maxima
Function : RANGE

Error Mean Square = 0.8070
Error Degrees of Freedom = 8
No. of observations to calculate a mean = 3

Duncan's Multiple Range Test
LSD value = 2.461
s_ = 0.5187 at alpha = 0.010
x

```

Original Order				Ranked Order			
Mean	1 =	57.83	B	Mean	3 =	63.77	A
Mean	2 =	58.00	B	Mean	2 =	58.00	B
Mean	3 =	63.77	A	Mean	1 =	57.83	B
Mean	4 =	56.00	B	Mean	4 =	56.00	B

Prueba de Duncan $\alpha=0,050$ de la temperatura máxima de los tratamientos

```

Data File : USTAREZ
Title : tesis en microorganismos

Case Range : 13 - 16
Variable 3 : temperatura maxima
Function : RANGE

Error Mean Square = 0.8070
Error Degrees of Freedom = 8
No. of observations to calculate a mean = 3

Duncan's Multiple Range Test
LSD value = 1.691
s_ = 0.5187 at alpha = 0.050
x

```

Original Order				Ranked Order			
Mean	1 =	57.83	B	Mean	3 =	63.77	A
Mean	2 =	58.00	B	Mean	2 =	58.00	B
Mean	3 =	63.77	A	Mean	1 =	57.83	B
Mean	4 =	56.00	C	Mean	4 =	56.00	C

Análisis de Varianza de la Temperatura Promedio de los tratamientos

Data file: [U]STAREZ[
 Title: tesis en microorganismos

Function: ANOVA-1
 Data case no. 1 to 12

One way ANOVA grouped over variable 1 (tratamientos)
 with values from 1 to 4.

Variable 4 (temperatura promedio)

A N A L Y S I S O F V A R I A N C E T A B L E					
	Degrees of Freedom	Sum of Squares	Mean Square	F-value	Prob.
Between	3	111.798	37.266	113.501	0.0000
Within	8	2.627	0.328		

Total	11	114.425			

Coefficient of Variation = 1.86%

Var. 1	V A R I A B L E Number	No. 4 Sum	Average	SD	SE
1	3.00	87.720	29.240	0.42	0.33
2	3.00	92.340	30.780	0.99	0.33
3	3.00	107.200	35.733	0.40	0.33
4	3.00	82.680	27.560	0.00	0.33

Total	12.00	369.940	30.828	3.23	0.93
Within				0.57	

Bartlett's test

 Chi-square = 21.437
 Number of Degrees of Freedom = 3
 Approximate significance = 0.000

WARNING: One or more factor levels have a variance of zero.
 This will cause a large Chi-Square value.

Prueba de tukey $\alpha=0,050$ de la temperatura promedio de los tratamientos

Data File : [USTAREZ]

Title : tesis en microorganismos

Case Range : 13 - 16

Variable 4 : temperatura promedio

Function : [RANGE]

Error Mean Square = 0.3280

Error Degrees of Freedom = 8

No. of observations to calculate a mean = 3

Tukey's Honestly Significant Difference Test

$s_{\bar{x}} = 0.3307$ at alpha = 0.050

x

]

Original Order

Ranked Order

Mean	1 =	29.24	C	Mean	3 =	35.73	A
Mean	2 =	30.78	B	Mean	2 =	30.78	B

Data File : [USTAREZ]

Title : tesis en microorganismos

Case Range : 13 - 16

Variable 4 : temperatura promedio

Function : [RANGE]

Error Mean Square = 0.3280

Error Degrees of Freedom = 8

No. of observations to calculate a mean = 3

Tukey's Honestly Significant Difference Test

$s_{\bar{x}} = 0.3307$ at alpha = 0.010

x

]

Original Order

Ranked Order

Mean	1 =	29.24	BC	Mean	3 =	35.73	A
Mean	2 =	30.78	B	Mean	2 =	30.78	B
Mean	3 =	35.73	A	Mean	1 =	29.24	BC
Mean	4 =	27.56	C	Mean	4 =	27.56	C

⏏

Análisis de Varianza del pH máximo de los tratamientos

Data file: [USTAREZ]
 Title: tesis en microorganismos

Function: ANOVA-1
 Data case no. 1 to 12

One way ANOVA grouped over variable 1 (tratamientos)
 with values from 1 to 4.

Variable 5 (pH maximo)

ANALYSIS OF VARIANCE TABLE					
	Degrees of Freedom	Sum of Squares	Mean Square	F-value	Prob.
Between	3	0.049	0.016	6.556	0.0151
Within	8	0.020	0.003		
Total	11	0.069			

Coefficient of Variation = 0.64%

Var. 1	VARIABLE Number	No. 5 Sum	Average	SD	SE
1	3.00	23.200	7.733	0.06	0.03
2	3.00	23.500	7.833	0.06	0.03
3	3.00	23.000	7.667	0.06	0.03
4	3.00	23.400	7.800	0.00	0.03
Total	12.00	93.100	7.758	0.08	0.02
Within				0.05	

Bartlett's test

Chi-square = 11.522
 Number of Degrees of Freedom = 3
 Approximate significance = 0.000

WARNING: One or more factor levels have a variance of zero.
 This will cause a large Chi-Square value.

↑

Prueba de tukey $\alpha=0,050$ del pH máximo de los tratamientos.

Data File : [USTAREZ]
Title : tesis en microorganismos

Case Range : 13 - 16
Variable 5 : pH maximo
Function : [RANGE]

Error Mean Square = 0.003000
Error Degrees of Freedom = 8
No. of observations to calculate a mean = 3

Tukey's Honestly Significant Difference Test
 $s_{\alpha} = 0.03162$ at alpha = 0.050

x
[

	Original Order				Ranked Order			
Mean	1 =	7.733	AB	Mean	2 =	7.833	A	
Mean	2 =	7.833	A	Mean	4 =	7.800	AB	
Mean	3 =	7.667	B	Mean	1 =	7.733	AB	
Mean	4 =	7.800	AB	Mean	3 =	7.667	B	

Data File : [USTAREZ]
Title : tesis en microorganismos

Case Range : 13 - 16
Variable 5 : pH maximo
Function : [RANGE]

Error Mean Square = 0.003000
Error Degrees of Freedom = 8
No. of observations to calculate a mean = 3

Tukey's Honestly Significant Difference Test
 $s_{\alpha} = 0.03162$ at alpha = 0.010

x
[

	Original Order				Ranked Order			
Mean	1 =	7.733	A	Mean	2 =	7.833	A	
Mean	2 =	7.833	A	Mean	4 =	7.800	A	
Mean	3 =	7.667	A	Mean	1 =	7.733	A	
Mean	4 =	7.800	A	Mean	3 =	7.667	A	

Análisis de Varianza de la Humedad máxima de los tratamientos

Data file: [JUSTAREZ]
Title: tesis en microorganismos

Function: ANOVA-1
Data case no. 1 to 12

One way ANOVA grouped over variable 1 (tratamientos)
with values from 1 to 4.

Variable 7 (humedad maxima)

ANALYSIS OF VARIANCE TABLE					
	Degrees of Freedom	Sum of Squares	Mean Square	F-value	Prob.
Between	3	3.753	1.251	1.184	0.3752
Within	8	8.453	1.057		
Total	11	12.207			

Coefficient of Variation = 2.42%

Var. 1	VARIABLE Number	No. 7 Sum	Average	SD	SE
1	3.00	128.000	42.667	1.15	0.59
2	3.00	129.300	43.100	1.01	0.59
3	3.00	124.700	41.567	1.37	0.59
4	3.00	127.200	42.400	0.00	0.59
Total	12.00	509.200	42.433	1.05	0.30
Within				1.03	

Bartlett's test

Chi-square = 21.677
Number of Degrees of Freedom = 3
Approximate significance = 0.000

WARNING: One or more factor levels have a variance of zero.
This will cause a large Chi-Square value.

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Prueba de tukey $\alpha=0,050$ de la Humedad máxima de los tratamientos.

Data File : [USTAREZ]
Title : tesis en microorganismos

Case Range : 13 - 16
Variable 7 : humedad maxima
Function : [RANGE]

Error Mean Square = 1.057
Error Degrees of Freedom = 8
No. of observations to calculate a mean = 3

Tukey's Honestly Significant Difference Test
 $s_{\bar{x}} = 0.5936$ at alpha = 0.050

	Original Order				Ranked Order			
Mean	1 =	42.67	A	Mean	2 =	43.10	A	
Mean	2 =	43.10	A	Mean	1 =	42.67	A	
Mean	3 =	41.57	A	Mean	4 =	42.40	A	
Mean	4 =	42.40	A	Mean	3 =	41.57	A	

Prueba

Data File : [USTAREZ]
Title : tesis en microorganismos

Case Range : 13 - 16
Variable 8 : humedad promedio
Function : [RANGE]

Error Mean Square = 0.6280
Error Degrees of Freedom = 8
No. of observations to calculate a mean = 3

Tukey's Honestly Significant Difference Test
 $s_{\bar{x}} = 0.4575$ at alpha = 0.050

	Original Order				Ranked Order			
Mean	1 =	32.89	AB	Mean	4 =	34.56	A	
Mean	2 =	32.19	B	Mean	3 =	33.97	AB	
Mean	3 =	33.97	AB	Mean	1 =	32.89	AB	
Mean	4 =	34.56	A	Mean	2 =	32.19	B	

de tukey $\alpha=0,010$ de la Humedad máxima de los trata

Prueba de tukey $\alpha=0,050$ de la Humedad máxima de los tratamientos.

Data File : USTAREZ
 Title : tesis en microorganismos

Case Range : 13 - 16
 Variable 7 : humedad maxima
 Function : RANGE

Error Mean Square = 1.057
 Error Degrees of Freedom = 8
 No. of observations to calculate a mean = 3

Tukey's Honestly Significant Difference Test
 $s_{\bar{x}} = 0.5936$ at $\alpha = 0.050$

x
 Original Order Ranked Order

Mean	1 =	42.67	A	Mean	2 =	43.10	A
Mean	2 =	43.10	A	Mean	1 =	42.67	A
Mean	3 =	41.57	A	Mean	4 =	42.40	A
Mean	4 =	42.40	A	Mean	3 =	41.57	A

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