

«*Rosa damascene*»

(1) (1) (1)

() / 182.4 ()
() / 112.2
. %0.071
GC/MS
(%14-12) (%30-26) (%31-28) :
(%3-1) (%6-4) (%8-6) -
:
()
:
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Evaluation of Production and the Content of the essential oil for some landraces of *Rosa damascena* in Syria

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and K. Almaarri⁽¹⁾

ABSTRACT

Six Syrian landraces of *Rosa damascena* planted at the faculty of agriculture of Damascus University have been evaluated in this study. A big variation of yield was noticed among the landraces. The landrace called (Mesraba) was superior to others concerning yield which was (112.2 g/plant). On the other hand, (Erna) had got the highest content of oil (0.071%). Analysis of oil implemented in Suleyman Demirel University in Turkey (Isparta) identified the main components of oil such as: Geraniol (28-31%), Citronellol (26-30%), Nerol (12-14%), Germacrene-D (6-8%), Nonadecane (4-6%) and Linalool (1-3%). Besides, many trace compounds were detected such as: Eicosane, Eugenol, Citral, Hexadecane and Rose oxide. The essential oil of (Almarah) had got the highest quality.

Key Words: *Rosa damascena*, Landrace, Yield, Essential Oil.

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Rosa gallica . 3
(12-6)
)
(%1-0.1)
%75-70
4 - 3
:
(Rangahau, 2001) 1 1 3

Rosa damascena
Rosa *Rosaceae*
(Katzer, 2003) *Rosa muschata*
(7-5)
2
(2010
(Loubert, 2002)
"Attar"
(Coutiere, 2007)

Anti-

(2010) Cancer
(Coutiere, 2007) C

(Sharma & Farooqi, 1990)

(Tabaei-Aghdaei *et al.*, 2006)

(2007 Naghavi Assareh)

Baydar)

(Baydar *et al.*, 2004 Babaei *et al.*, 2007)

.(*et al.*, 2004

.(Rusanov *et al.*, 2009)

.(Hayirlioglu-Ayaz & Inceer, 2001)

.GC/MS

6 (1) 6
- (1)

()	()			
125-75	1500	34° 01' 10"	36° 44' 00"	()
850-700	1400	33° 21' 55"	35° 52' 39"	
350-300	385	36° 11' 18"	37° 15' 25"	()
300-280	1679	33° 51' 49"	36° 24' 35"	
220-200	825	33° 32' 51"	36° 24' 07"	()
650-350	1607	33° 45' 28"	36° 23' 09"	

(Peterson, 1985) Augmented design

Rosa damascene. trigintipetala

18 3 20 2
2008/9/1 (1)
(2010/5/10 -2010/4/10)
20
/ 2
234 215) (2010-2009) (2009-2008)
(

...

:) : (1:1:1 :

%			% 100/				/ E.C. PH	
52	16	32	0.085	0.95	4	7.9	1.02	8.15
							0-20	

Ppm						
B	Zn	Mn	Cu	Fe		
0.16	0.78	11.89	1.19	22.6	18.2	352



(1)

:

. / -
 .() -
 .() 30/ -
 .(48 105) .() 30/ -
 Clevenger :% -
 (2)
 100

:(Components of essential rose oil) -

(SÜLEYMAN DEMİREL UNIVERSITY)

" "

20 (3) (Gas Chromatograph Mass Spectrometer) GC/MS
(Analysis Parameters)

- 240 :Injection
- .10 :Flow (psi)
- EI (70 eV) :Ionization Mode
- 60 :Oven Program
- 220
- .He :
- Cp W AX 52 CB m* 10.32 mm, 1.2 µm :Column
- .Wiley, Nist, Tutor :Library
- LSD SPSS
- %95

(Hutcheson, 1970)

(H')

.(Tolbert *et al.*, 1979)

$$H' = \sum hs.j / k$$

$$hs.j = - \sum pi \ln pi$$

$$pi =$$

%1

LSD



Clevenger

(2)



GC/MS

(3)

(2)

()

) ()
 (%51.6)
 () (%42.4 %43.4 %30.7)
 .(%40.3)

(2)

LSD 5%							()	
3.8	151.07	182.4a	148.2b	140.4c	145.6b	147.2b	142.6c	
-	32.7	51.6	33.2	21.4	31.4	32.5	26.0	%
0.712	107.5	112.2a	107.3b	105.8c	106.8b	106.8b	106c	()
-	15.9	30.7	7.2	6.5	19.1	12.8	18.9	%
1.1	25	28.3a	25.3b	22.6c	25.2b	26.2b	22.4c	()
-	28.7	43.4	30.3	27.9	30.0	33.2	27.4	%
0.4	3.08	4.2a	2.7c	2.4c	3.2b	2.9bc	3.1bc	()
-	26.5	42.4	24.9	22.1	28.0	25.4	26.4	%
0.008	0.058	0.043C	0.057Bc	0.060bc	0.062b	0.071a	0.056Bc	%
-	24	17.6	21.7	23.7	29.6	40.3	20.8	%
26.88								

(0.50) (3) (H')
 .(0.784)

(3)

(H')	
1.00	
0.79	
0.76	
0.60	
0.77	
0.784±0.142	±

:

.(Babu *et al.*, 2004)

.(Baydar *et al.*, 2004)

(Bayzid *et al.*, 2009) (3+)

() (4)

() ()

(4)

	1	
	1	
-	0	
	1	
	1	

(4) (5)

:

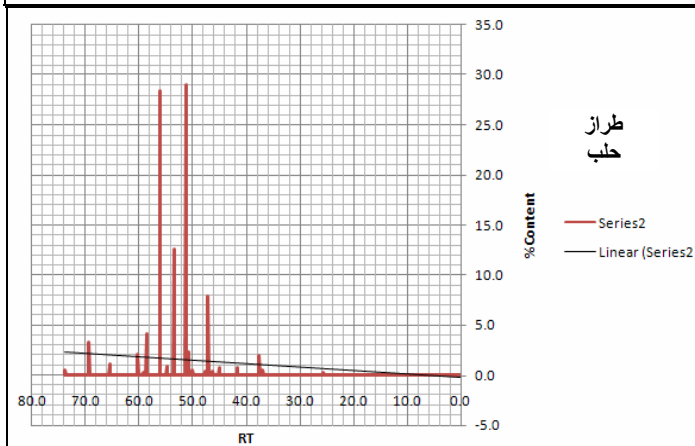
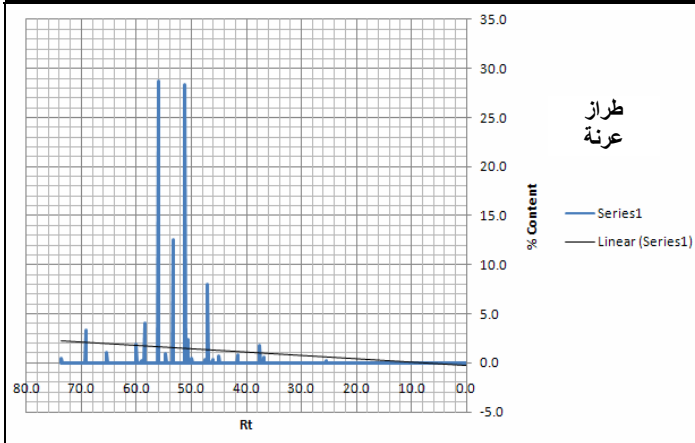
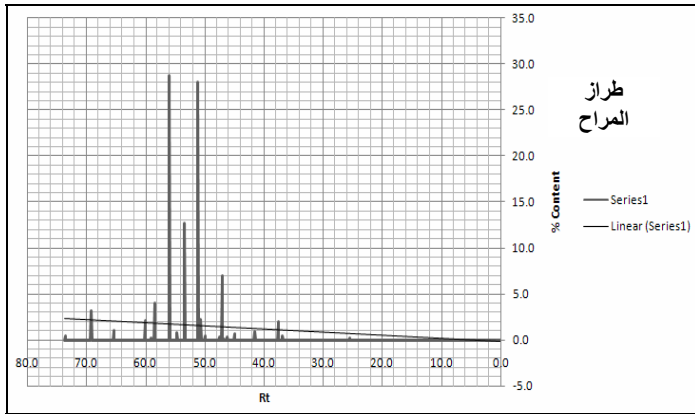
/)
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(
(Baydar *et al.*, 2004)

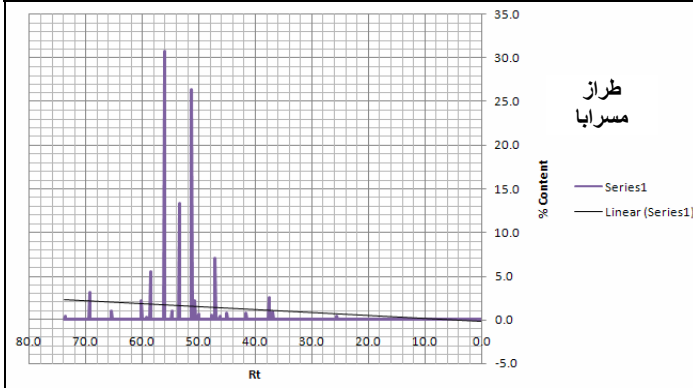
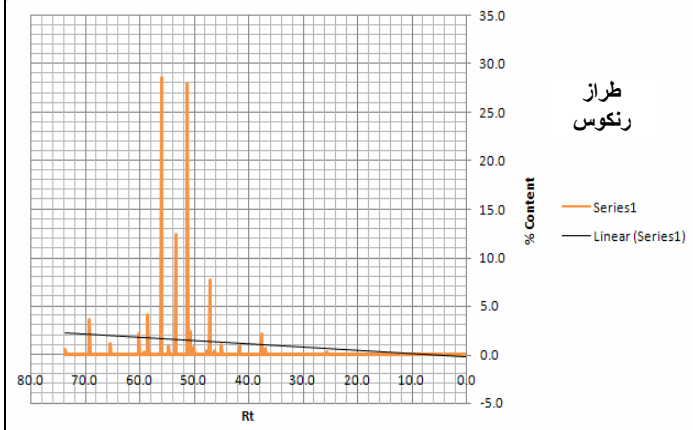
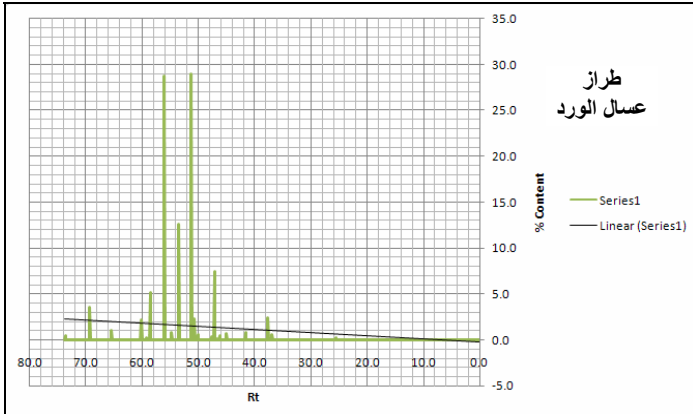
(5)

() Compound (Rt)	1	2	3	4	5	6	LSD
Rose oxide (25.6)	0.38	0.27	0.28	0.18	0.23	0.20	-
Linalool (37.6)	2.45a	2.08b	2.44a	1.79b	1.98b	2.01b	0.31
beta-Caryophyllene (41.6)	0.73	0.84	0.80	0.82	0.77	0.90	-
Citronellyl Acetate (45.0)	0.67b	0.95a	0.71b	0.73b	0.72b	0.7b	0.21
alpha-humulene/ β-selinene (46.2)	0.35	0.35	0.42	0.41	0.35	0.38	-
Hexadecane (46.7)	0.11	0.15	0.10	0.16	0.16	0.15	-
Germacrene D/ Gamma-Muurolene (47.1)	6.95	7.67	7.48	8.00	7.82	7.05	-
Linalyl Propionate (47.6)	0.43	0.39	0.38	0.32	0.36	0.41	-
Citral (50.0)	0.55b	0.73a	0.53b	0.47b	0.50b	0.51b	0.18
Geranyl acetate (50.7)	2.09	2.30	2.27	2.40	2.28	2.31	-
Citronellol (51.2)	26.32b	27.97a	28.96a	28.32a	29.02a	28.05a	1.33
Nerol (53.4)	13.31a	12.41b	12.57b	12.59b	12.63b	12.75ab	0.46
Phenyl Ethyl Acetate (54.7)	0.90	0.91	0.81	0.94	0.80	0.87	-
Geraniol (56.0)	30.75a	28.65b	28.75b	28.66b	28.36b	28.74b	1.01
Nonadecane (58.5)	5.41a	4.15b	5.17a	4.06b	4.15b	4.04b	0.82
9-Nonadecene (59.1)	0.28	0.31	0.22	0.28	0.20	0.21	-
PEA (60.1)	2.14	2.12	2.18	1.92	2.10	2.17	-
Eicosane (63.9)	0.88a	0.67b	0.62bc	0.54bc	0.48c	0.52bc	0.19
Methyl Eugenol (65.4)	0.96	1.08	1.02	1.08	1.03	1.01	-
Heneicosane (69.2)	3.12	3.56	3.50	3.29	3.25	3.21	-
Eugenol (73.6)	0.33b	0.46a	0.48a	0.48a	0.44a	0.44a	0.06

.LSD

.()





.GC/MS

(4)

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