/ 3 > 4 8 - Rosaceae

gradinar, A J 1 > B 0 27 A 5 ? B 5 < 2 @ 8 2008 - 16:46:35

/ 3 > 4 0 B 0 5 @ > 4 @ 0 A B 5 = 8 O > B A 5 < 5 9 A B 2 > > 7 > F 2 5 B = 8 (Rosaceae), : 0 : B > 8 ? ; > 4 J B = 0 B 5 7 8 @ 0 A B 5 = 8 O, : > 9 B > 5 A 2 8 A > : > A J 4 J @ 6 0 = 8 5 = 0 2 J 3 ; 5 E 8 4 @ 0 B 8 8 2 8 B 0 < 8 = C. ! J I 5 A B 2 C 2 0 B = O : > ; : > 2 8 4 0 > B @ > 4 / 3 > 4 0, : 0 B > 5 4 8 = > B = 0 9- @ 0 7 ? @ > A B @ 0 = 5 = 8 B 5 5 3 > @ A : 0 B 0 O 3 > 4 0. 1 @ 0 7 C 2 0 : > @ 5 = 8 I 5 A 8 7 4 J = : 8. 8 A B 0 B 0 A 0 A ; > 6 = 8 B @ > 9 = 8, A ? @ 8 ; 8 A B = 8 F 8, A J 1 @ 0 = 8 2 > A = > 2 0 B 0 = 0 A B J 1 ; > B > . ; > 4 J B 5 ; J 6 ; 8 2. ; > 4 = 8 F 8 B 5 A 0 < = > 3 >.

/ 3 > 4 8 B 5 A 0 B @ 5 2 8 A B > < = > 3 > 3 > 4 8 H = > @ 0 A B 5 = 8 5, : > 8 B > 6 8 2 5 O B 8 4 0 2 0 B ? ; > 4 > 2 5 < 0 : A 8 < C < 2 - 3 3 > 4 8 = 8.

Normal 0 21 false false false MicrosoftInternetExplorer4 ! " /

! '5H:8 A>@B >B 3@C?0B0 =0 @0==8B5 A>@B>25. 0AB5=8OB0 A0 C<5@5=> 28A>:8, 87?@025=> @0ABOI8, A <=>3> 4>1@0 @>4>28B>AB. ;>4>25B5 A0 54@8 4> A@54=> 54@8 8 874@51=O20B A ?>A;54=8B5 15@8B18 "5 A0 70>1;5=8 4> BJ?> :>=CA>284=8, A25B;> G5@25=8 157 H89:0. ;>4>2>B> <5A> 5 15;57=8:02> G5@25=>, A@02=8B5;=> ?;JB=>, A;01> :8A5;> 8 A;01> 0@><0B=>. #AB>9G82 5 =0 1@0H=5AB0 <0=0, => GC2AB28B5;5= :J< ;8AB=8 ?5B=0.

%>;0=4A:8 A>@B >B 3@C?0B0 =0 A@54=> @0==8B5. 0AB5=8OB0 A0 ?>;C87?@025=8, A@54=> 28A>:8.#7@O20B ?>GB8 54=>2@5<5==> A >:0E>=B0A. 5@8B15=8O ?5@8>4 5 A@02=8B5;=> :@0BJ:. !>@B0 5 C<5@5=> @>4>28B, 4> @>4>28B, => 5 <=>3> 278A:0B5;5= :J< ?>G25=0 8 2J74CH=0 2;06=>AB 8 ;5B=8 3>@5I8=8. 0 B>20 A>@B0 B@O120 40 A5 >B3;5640 =0 ?@>E;04=8 8 2;06=8 <5AB0. ;>4>25B5 >B ?J@28B5 425 15@8B18 A0 4>AB0 54@8, A ?@82;5:0B5;5= 2J=H5=284. "5 A0 :>=CA>284=8 8 ;5:> A?;5A=0B8, A ?@5A5G5= 2@JE, ?>=O:>30 3@515=>284=8 8 A 70>1;5=8 @51@0 8 <0;:0 H89:0, G5@25=8 4> 28=5=> G5@25=8 A 3;0=F. ;>4>2>B> <5A> 5 4>AB0 ?;JB=>, >@0=652> G5@25=>, <=>3> 3;04:>, A <=>3> 4>1J@ 2:CA 8 0@><0B. #AB>9G82 5 =0 A82> 3=85=5, G5@25=8 8 15;8 ;8AB=8 ?5B=0, => GC2AB28B5;5= :J< 1@0H=5AB0 <0=0. % " ! <5@8:0=A:8 A>@B >B 3@C?0B0 =0 @0==> 7@55I8B5. ;>4>25B5 70?>G20B 40 7@5OB2 3 4=8 ?> :JA=> 8;8 ?>GB8

54=>2@5<5==> AB578=0A>@B0 >@5;0. 0AB5=8OB0A0
87?@025=8, A8;=> @0ABOI8, <=>3> @>4>28B8, @072820B A5
4>1@5 8 2 3>@5I8 @09>=8. ;>4>25B5 A0 A@54=> 54@8 4>
54@8 >B ?J@28B5 15@8B18 8 4@51=8 >B ?>A;54=8B5. "5 A0
?@82;5:0B5;=8, BJ?> :>=CA>284=8, A ?@5A5G5=2@JE,
:>9B> >18:=>25=> 5 A?;5A=0B, A <=>3> 4>1@5 87@075=0
H89:0, O@:> G5@25=8 A ;JA:028=0 8 4>AB0 ?>B>?5=8
A5<5=F0. 5A>B> 5 <=>3> ?;JB=>, >@0=652> G5@25=> A
?@8OB=0 :8A5;8==>AB 8 C<5@5=0@><0B. !>@B0 5 CAB>9G82
=0 15;8 8 G5@25=8 ;8AB=8 ?5B=0, A@54=> CAB>9G82 =0 A82>
3=85=5, => GC2AB28B5;5=:J< 1@0H=5AB0 <0=0 8 :>@5=>2>
3=85=5. $ " =3;89A:8 A>@B >B 3@C?0B0=0
A@54=>:JA=8B5. ;>4>25B5 <C 70?>G20B 40 C7@O20B
54=>2@5<5==> A ?;>4>25B5 =0 A>@B0 >:0E>=B0A 8;8
=O:>;:> 4=8 A;54=53>. 0AB5=8OB0 A0 A@54=> 28A>:8,
?>;C87?@025=8, GC2AB28B5;=8=0:>@5=>28 ?0B>35=8 8
0:0@8, <=>3> @>4>28B8. ?> ?@>E;04=8B5 @09>=8
4>1828B5 >B B>78 A>@B=0428H020B B578 >B A>@B0
>?:0E>=B0A. ;>4>25B5 >B ?J@28B5 =O:>;:> 15@8B18 A0
54@8 4> <=>3> 54@8, 0 >B ?>A;54=8B5=5 874@51=O20B
A8;=>. "5 A0 ?@028;=> BJ?> :>=CA>284=8, ?>=O:>30;5:>
C4J;65=8, :0B>2J@E>25B5=0 G0AB >B G0H5;8ABG5B0B0 A0
@0742>5=8, >F25B5=8 2 A25B;>G5@25=> 8 A0 A A;010
;JA:028=0. ;>4>2>B> <5A>5>@0=652> G5@25=>,
A;04:> :8A5;2:CA 8 C<5@5=0@><0B. #AB>9G82 5=0
1@0H=5AB0 <0=0, G5@25=8 8 15;8.;8AB=8 ?5B=0 8 A82>
3=85=5. 5;389A:8 A>@B. > <>@D>;>38G=8
>A>15=>AB8, @0AB5=85B> <=>3> ?@8;8G0=0 5<1@846
$02>@8B. @55 54=>2@5<5==> A =53>, 0 ?> @>4>28B>AB A5
87@02=O20 8;8 <0;:> 3> ?@528H020. ;>4>25B5 A0 70>1;5=8
4> BJ?> :>=CA>284=8, 157 H89:0, 8=B5=782=> G5@25=8 A
;JA:028=0. $@5=A:8 A>@B >B 3@C?0B0=0
A@54=>:JA=8B5. 0AB5=8OB0 A0 A8;=> @0ABOI8 8 4>AB0
28A>:8 8 687=5=8. 1@07C20B <0;:> ;0ABC=8, ?;>4>25B5 A0
A@54=> 54@8 >B ?J@28B5 15@8B18, A ?@028;=0 D>@<0, => A
?>A;54=8B5 A8;=> 874@51=O20B. "5 A0 70>1;5=8, 4>
BJ?>:>=>A>284=8, 157 H89:0, 8=B5=782=> G5@25=8, A
C<5@5=3;0=F 8 A@02=8B5;=> 4J;1>:> ?>B>?5=8
A5<5=F0. ;>4>2>B> <5A>5?;JB=>, ?>GB8 157 :CE8=0, A
<=>3> ?@8OB5=A;04:> :8A5;2:CA 8 A?5F8D8G5=0@><0B.
!>@B0 5 CAB>9G82 =0 1@0H=5AB0 <0=0, A8;=> GC2AB28B5;5=
=0 A82> 3=85=5 8 A@54=> GC2AB28B5;5==0 G5@25=8 8 15;8
;8AB=8 ?5B=0. # $@5=A:8 A>@B >B 3@C?0B0=0
A@54=>:JA=8B5, G88B>?;>4>25 7@5OB 54=>2@5<5==> A
B578=0 5=30 5=30=0 8 5430C=B;5@. 0AB5=8OB0 A0
28A>:8, 87?@025=8 AJA A@54=> 4515;8 F25B>=>A8.
;>4>25B5 A0 A8;=> C4J;65=8 8 42>9=> :>=CA>284=8, A
C4J;65=0 H89:0 8 ;5:> ?@5A5G5=2@JE. "5 A0 @C18=5=>

G 5 @ 2 5 = 8, A ? @ 8 O B 5 = 2 J = H 5 = 2 8 4 8 A ; 0 4 : > : 8 A 5 ; 2 : C A 8
C < 5 @ 5 = 0 @ > < 0 B. ! > @ B 0 5 @ > 4 > 2 8 B, 4 > < = > 3 > @ > 4 > 2 8 B 2 ? >
B > ? ; 8 B 5 @ 0 9 > = 8. 7 8 A : 0 B 5 ; 5 = 5 : J < ? > G 2 5 = 0 8 2 J 7 4 C H = 0
2 ; 0 6 = > A B 8 7 0 B > 2 0 = 0 9 4 > 1 @ 5 A 5 8 7 @ 0 7 O 2 0 2 ? > B > ? ; 8 B 5
@ 0 9 > = 8 8 ? @ 8 ? > ; 8 2 = 8 C A ; > 2 8 O. # A B > 9 G 8 2 5 = 0 1 5 ; 8 8
G 5 @ 2 5 = 8 ; 8 A B = 8 ? 5 B = 0, = > 5 G C 2 A B 2 8 B 5 ; 5 = = 0 1 @ 0 H = 5 A B 0
< 0 = 0 8 A 8 2 > 3 = 8 5 = 5. # " " = 3 ; 8 9 A : 8 A > @ B > B
3 @ C ? 0 B 0 = 0 : J A = 8 B 5 A > @ B > 2 5. B ; 8 G 0 2 0 A 5 A 3 > ; O < 0
@ > 4 > 2 8 B > A B, = > > B A B J ? 2 0 = 5 7 = 0 G 8 B 5 ; = > ? > 4 > 1 8 2 = 0
5 = 3 0 7 5 = 3 0 = 0. 0 A B 5 = 8 O B 0 A 0 < = > 3 > 6 8 7 = 5 = 8, 8 7 ? @ 0 2 5 = >
@ 0 A B O I 8, 0 F 2 5 B > = > A 8 B 5 2 8 A > : 8, 4 > A B 0 4 5 1 5 ; 8, @ 0 7 : ; > = 5 = 8.
; > 4 > 2 5 B 5 > B ? J @ 2 8 B 5 1 5 @ 8 B 1 8 A 0 < = > 3 > 5 4 @ 8 4 > 5 4 @ 8,
O @ : > G 5 @ 2 5 = 8 A > @ 0 = 6 5 2 0 > B A O = : 0 8 ; J A : 0 2 8 = 0, 1 5 7 H 8 9 : 0.
! > @ B 0 ? ; > 4 > 4 0 2 0 > 1 8 ; = >. > = 0 A O A @ 0 2 = 8 B 5 ; = > 4 > 1 @ 5
3 > @ 5 I 8 = 8 8 2 @ 5 < 5 = = 8 7 0 A C H 0 2 0 = 8 O ? > 2 @ 5 < 5 = 0 7 @ 5 5 = 5 B >
= 0 ? ; > 4 > 2 5 B 5. # A B > 9 G 8 2 = 0 1 @ 0 H = 5 A B 0 < 0 = 0, ; 8 A B = 8 ? 5 B = 0 8
A 8 2 > 3 = 8 5 = 5. < 0 A 8 ; = > 8 7 @ 0 7 5 = 0 A : ; > = = > A B : J <
@ 5 < > = B 0 = B = > A B.

/ 3 > 4 8 B 5 ? @ 5 4 ? > G 8 B 0 B 4 > 1 @ 5 > B F 5 6 4 0 I 0 A 5 ? > G 2 0. " O B @ O 1 2 0
4 0 A 5 > 1 > 3 0 B 8 A > @ 3 0 = 8 G = 0 B > @, > : > ; > < 5 A 5 F, ? @ 5 4 8
< ; 0 4 8 B 5 @ 0 A B 5 = 8 O 4 0 1 J 4 0 B 7 0 A 0 4 5 = 8.

5 E 8 B 5 B @ O 1 2 0 4 0 ? > : @ 8 B 8 4 > 1 @ 5 A B > @ 8 A ; 0 < 0, 7 0 4 0 A 5
? @ 5 4 > B 2 0 @ 8 @ 0 7 2 8 B 8 5 B > = 0 ? ; 5 2 5 ; 8 8 7 0 4 0 A 5 7 0 ? 0 7 O B
? ; > 4 > 2 5 B 5 G 8 A B 8. / 3 > 4 8 B 5 ? @ 5 4 ? > G 8 B 0 B A ; 0 1 > : 8 A 5 ; 8 = = 0
? > G 2 0, A pH 5.0 - 6.0.

5 5 4 > 1 @ 5 4 0 A 5 8 7 ? > ; 7 2 0 ? > G 2 0, 2 : > O B > ? @ 5 4 8 B > 2 0 A 0
@ 0 A ; 8 4 @ C 3 8 4 @ 5 1 = 8 1 5 7 : > A B 8 ; : > 2 8 (< 0 ; 8 = 8, 1 > @ > 2 8 = : 8 8
4 @.), 8 ; 8 @ 0 A B 5 = 8 O > B A 5 < 5 9 A B 2 > B > = 0 4 > < 0 B 0 (Solanaceae), 7 0 I > B >
8 < 0 > ? 0 A = > A B > B 7 0 @ 0 7 O 2 0 = 5 A 2 8 @ C A = 8 1 > ; 5 A B 8.

0 A B 5 = 8 O B 0 = 5 1 8 2 0 4 0 A 5 ? > ; 8 2 0 B > B 3 > @ 5, 7 0 4 0 = 5 A 5
@ 0 7 2 8 O B 3 J 1 8 G : 8. 0 9 ? > 4 E > 4 O I > 5 : 0 ? : > 2 > B >
= 0 ? > O 2 0 = 5. 0 B > @ O 2 0 = 5 B > A B 0 2 0 = 0 2 A 5 4 < 8 F 8, A . ? > 4 E > 4 O I
B > @.

0 9 4 > 1 @ 5 A 5 @ 0 7 2 8 2 0 B = 0 > B : @ 8 B > 8 ? @ > 2 5 B @ 8 2 >
A ; J = G 5 2 > < O A B >. 0 A 0 6 4 0 B A 5 2 J 2 2 8 A > : 8 ; 5 E 8.

0 7 < = > 6 0 2 0 = 5: ? > - B > ? ; 8 B 5 @ 0 9 > = 8, A : ; 8 < 0 B, 1 ; 8 7 > 4 >
A C 1 B @ > ? 8 G 5 A : 8 O, < ; 0 4 8 B 5 @ 0 A B 5 = 8 O A 5 7 0 A 0 6 4 0 B ? @ 5 7 < 0 @ B -
0 ? @ 8 ;, 0 2 ? > - A B C 4 5 = 8 B 5 < 5 A B 0 - 2 : 0 @ O = 0 7 8 < 0 B 0 8 = 0 G 0 ; > B >
= 0 ? @ > ; 5 B B 0, H 0 E < 0 B = >, ? @ 5 7 @ 5 4, : 0 B > > A B O 2 O B 5
@ 0 7 A B > O = 8 5 < 5 6 4 C @ 0 A B 5 = 8 O B 0 - 3 5 A <.
J @ E J B = 0 : > @ 5 = 8 B 5 B @ O 1 2 0 4 0 5 = 0 = 8 2 > B > = 0 ? @ J A B B 0, 7 0

40 A5 87153=5 703=820=5B>. /3>48B5 A5 ?>;820B 254=030
A;54 70A0640=5B>.

74J=:8B5 =0 O3>48B5 4020B 2J7<>6=>AB 40 A5 >B3;540B
?>25G5 @0AB5=8O, => ?J: =0<0;O20B ?@>4C:F8OB0 =0
?;>4>25. 0 2B>@0B0 3>48=0 ;5E8B5 AB020B ?@5:0;5=>
B5A=8 70 2A8G:8 ;0AB0@8, 8 ?;>4>25B5 A5 704CH020B 2
;8AB0. @5?>@JG8B5;=> 5 @0AB5=8OB0 40 A5 70?07OB
<0:A8<C<3 3>48=8, A;54 :>5B> B5 A5 87B>I020B. 5E8B5
B@O120 40 A5 >AB02OB 40 ?>G8=0B ?>=53 5 3>48=8.

!;54 ?J@20B0 3>48=0 O3>48B5 4020B <0;:> ?;>4, => ?J:
?CA:0B ?>25G5 ;0AB0@8. >30B> A?@0B 40 4020B ?;>4>25,
>BAB@0=5B5 ;0AB0@8B5, 7054=> A C25E=0;8B5 8;8 701>;5;8
;8AB0.
0AB5=8OB0 A5 ?>4E@0=20B A ?>4E>4OI B>@ 8 A5 ?>:@820B
AJA A;0<0.
:> 2 3@048=0B0 8<0 <OAB>, <>30B 40 1J40B =0?@025=8 =>28
;5E8, A =09 3>;5<8B5 8 74@028 ;0AB0@8.

075B5 ?;>4>25B5 >B ?B8F8, >E;N28 8 ?;C65F8. 0
?@><8H;5=> >B3;5640=5 =0 O3>48 A5 ?@5?>@JG20 O3>48B5
40 A5 @07A0640B 2AO:0 3>48=0, 70 40 4020B ?>- 3>;O<0
?@>4C:F8O.

E@8AB8O=AB2>B> O3>40B0 5 A8<2>; =0 ?@0254=>ABB0,
?;>4JB =0 4>1@>B> 45;>, ?;>4>25B5 =0 4CE0. /3>40B0
7054=> A B5<5=C6:8 >7=0G020 A<8@5=>ABB0 =0 8AB8=A:0B0
?@0254=>AB.