

!"#&/'
4;0<548G=>3> 70AB>AC20=O ;V:0@AL:>3> 70A>1C
!''''
!/:04:
4VNGV @5G>28=8; 3;N:>70E>@84, A5;5@8 70?0H=>W (Apium graveolens) ?>4V2 5:AB@0:B ACE89, 25@18 1V;>W (Salix alba) >@8 5:AB@0:B ACE89, V=18@C 0?B5G=>3> (Zingiber officinale) >@5=5281 5:AB@0:B ACE89;
1 B01;5B:0 70E>:@84 750 <3, 5:AB@0:B A5;5@8 70?0H=>W ?>4V2 ACE89 (Apium graveolens) (4;5:1) (5:AB@035=B 5B0=>; 90 %) 22,23<3, 5:AB@0:B 25@18 1V;>W :>@8 ACE89 (Salix Alba) (25:1) (5:AB@035=B 5B0=>; 90 %) 4<3, 5:AB@0:B V<18@C 0?B5G=>3> :>@5=5281 ACE89 (Zingiber officinale) (5:1) (5:AB@035=B 5B0=>; 90 %) 12<3;
4>?>28=8: >;VO @>A;8=0 3V4@>35=V7>20=0, ;0;LFVN 3V4@>D>AD0B, F5;N;>70 :@8AB0;VG=0, =0B@VN :@>A:0@<5>70, <03=VN AB50@0B, ?>2V4>=, :@5<=VN 4V>:A84 :>;W4=89 1572>4=89, 3V?@<5>;>70, ?>;V5B8;5=3;V>;L, B0;L; 2VA: :0@=0C1AL;89;<0;LB>45:AB@8=.

V:0@AL:0 D>@<0. "01;5B;8, 2:@8BV >1>=>;>N.
A=>2=V D1V78:>:-E'VABV' B01;5B;8 1V;>3> >;L>@C, 2:@8BV >1>;>;>N, 7 ;V=VTN @>7>4=>3> 1>;C, 4>?CA:0NBLAO 2:@0?;5=O.

S0@<0>B5@0?52B8G=0 3@C?0. 0A>18, 1> 70AB>A>2CNBLAO ?@8 ?0B>;>3VW >?>@=>:-@CE>2>3> 0?0@0BC. >4 "% 09%.

\$0@<0>:>3>VG=V 2;0AB82>ABV.
;N:>70A0E0@84><; 0;89 2E>48BL 4> A:;04C<0965 CAVE B:0=8= ;N48=8, 2;NG0NG8 E@OIV V A8=>2V0;L=C @V48=C. V= ?@>4C:CTBLAO >@30=V7<< V7 3;N:>78. ;N:>701C4>2V E@OI>2>W B:0=8=8, :VAB:>2>W B:0=8=8, AB2@>5=V ACE>68;0. A8=B57V AC3;>1>2>W @V48=8, A?>;CG=>W B:0=8=8, H;V@8. 8:>@8AB>2CTBLAO E=>4@>F8B0;8 4;O A8=B57C 3;N:>703;V:0=V2 V 3V0;C@>=>2>W :8A;>B8. ;N:>70B870?0;L=89 5D5:B8. 5AB0G0 3;N:>70
0AB>AC20=O 5:7>35=>3> 3;N:>70460T ?@>3@5AC20=N 4535=5@0B82=8E ?@>F5AV2 2>?>@=>:-@CE>2>2;5=O E@EOI0 V =>@<0;V7CT>128= C E@OI>2V9 V :VAB>2V9 B:0=8=0E. @V< B>3>, 2V= 70E8I0T E@OI 2V4 B>:A8G=>3> 2?;82C =5AB5@>W4=8E ?@>B870?0;L=8E 70A>1V2 V 3;N:>:>@B8>W4V2.
?@0 25@18 28=8, ?>4V1=V 70 4VTN 4> 0F5B8;A0;VF8;>2>W :8A;>B8, 2VB0D;02=>W48, O:V ?>78B82=> 2?;820NBL =0 7030;L=89 >128=. '8=8BL 0=0;357CNGC, 60@>7=86C20;L=C B0 ?@>B870?0;L=C 4VN, ?V428ICT ?5@8D5@8G=89 :@>2>>1V3 V ?>B>284V;5=O H;OE< ?@O<<W 4VW =0 B5@<@>53C;NNG89 2V44V; 3V?>B0;0
0AV=O A5;5@8 A?@8OT ?>:@010=N :@>2>>1V3C, ?>;53HCT 282545=O A>;59 7>@30=V7V@=VABL >@30=V7B870?0;L=89, ?@>B80;5@3VG=89, A?0?>;VB8G=89, A5G>3V=89 5D5:B8.
<18@<0T ?@>B870?0;L=V 2;0AB82>ABV, A?@8OT ?@83=VG5=N A8=B57C ?@>AB03;0=48=V2, ?>;53HCT 1V;L V 70?0;5=O C AC3>10E 2=0A;V4>: 0@B@8BC, ?V428ICT V #FV;>B870?0;L=C 4VN, C?>2V;L=NT ?@>F5A @C9=C20=O E@EOI0, ?>:@0ICT @CE>1V2, A?@8OT ?>;V?H5=N :@>2>>1V3C.

;V=VG=V E0@0:B5@8AB8;8.
>:070=O.
AB5=0@B@>7; 1>;L>289 A8=4@< ?@8>AB5>0@B@8BV, >AB5>E=>4@>7V, @520B8778BV, 78BV; 1>;L>289 B0 =01@O>289 A8=4@<8 ?@8 0@B@8BV, ?>403@V.

@>B8?>:070=O.
V428I5=0 GCB;82VABL 4> 1C4L-O>3> :>5=B0 ?@5?0@0BC, 0 B0:>6 4><@5?@>4C;BV2, 3V?5@GCB;82VABL 4> A0;VF8;0BV2 01> V=H8E (=0?@8;:04, =0O2=VABL 2 0=8=>57V 0=3V>=52@>B8G=>3> =01@O:C, A?07=EV2 01> E@>=VG=>W :@>?82O=<8 C 2V4?>2V4L =0 70AB>AC20=O A0;VF8;0BV2 G8 V=H8E), 0AB<0, 28@07>20 E2>@>10 H;C=0 C AB04VW 703>AB@5=O, B@<1>D;51VB8, FC:@>289 4V015B, B06V ?>@CH5=O DC=;FV9 ?5GV=8 01>=8@<;, D5=V;:5B=C@VO, @>7;048 :>03C;OFVW, AE8;L=VABL 4> :@>2>B5G, =54>AB0B=VABL 3;N:>7>6-D>AD0B453V4@>35=078.

70T<>4VO 7 V=H8<8 ;V:0@AL:8<8 70A>10<8 B0 V=HV 2848 270T<>4V9.
@8 >4=>G0A>AC20=V 7 3;N:>:>@B8>AB5@>W40<8 B0 =5AB5@>W4=8<8 ?@>B870?0;L=8<8 70A>10<8 ?@5?0@0B<>65 7=86C20B8 ?>B@51C 2 =8E, 0 B0:>6 C 7=51>;N20;L=8E 70A>10E. @>O2;OT A8=5@3V7< 4VW ?@8 >4=>G0A=>AC20=V 7 E=>4@>WB8=>< B0 V=H8<8 E=>4@>?@>B5:B>@0<8. D5:B82=VABL ;V:C20=O ?V428ICTBLAO ?@8 8 71030G5=V 4VTB8 2VB0
@8 >4=>G0A=>2>N :8A;>B>N 01> 7 0=B8>03C;O=B0<8 G8 0=B803@530=B0<8 @5:><5=4>20=> ?@>2>48B8 :>=B@>;L 73>@B0=O :@>2V.
>2V4><;O>AO ?@> B5=45=FPV 28<8;=5=O :@>2>B5G C ?0FVT=BV2, O:V ?@89<0NBL 20@D0@8=V 3;N:>70
@8 :<1V=>20=>AC20=V ?>A8;NT 2A<:BC20=O 7 B@02=>3> B@0;BC B5B@0F8;;V=V2 B0 7<5=HCT ?5=VF8;V=V2 V E;>@0;C.
>15@56=VABN 70AB>A>2C20B8 >4=>G0A=>? 7 4VC@5B8;0<8.
>?2V4><;5=O, 1> 3;N:>70
'5@57 2W<<6;825 ?>A8;5=O 4VW 0=B8>03C;O=BV2 (=0?@8;:04, :C<0@8=C, 35?0@8=C) B0 ?@5?0@0BV2, O:V 7=86CNBL @V25=L FC:@C 2 :@>2V, 0 B0:>6 7=865=O 5D5:BC ?@5?0@0BV2, 1> A?@8ONBL 282545=N A5G>2>W :8A;>B8. >A8;NT @878: 30AB@>V=B5AB8=0;L>W :@>2>B5GV @8 >4=>G0A=>@B8>AB5@>W40<8 (=0?@8;:04, ?@54=V7>;>=><) 01> ?>?5@54=L>3>;N.

A>1;82>ABV 70AB>AC20=O.
>15@56=VABN B0 BV;L:8 70 ?@87=0G5=O< ;V:0@O 70AB>A>2C20B8 ?0FVT=B0< 7V H;C=>2>:8H>28<8 :@>2>B5G0<8 2 0=0<=57V, 70E2>@N20=O<8 ?5GV=:8 B0 =8@>;, 0;5@3VG=8<8 @50:FVO<8. 5 @5>> <5=4CTBLAO 26820B8 0;>3>;L >4=>G0A=>? 7 70AB>AC20=O< ?@5?0@0BC.
@5?0@0B G8=8BL 4VN, ?>4V1=C 4> 0F5B8;A0;VF8;>2>W :8A;>B8, B>A>2C20B8 9>3> ?@8 3@8?V, 2VB@O=V9 2VA?V 01> V=H8E =54V03>AB>20=8E 70E2>@N20=OE 4;O C=8=5=O 28=8=5=O A8=4@> A=CNBL 2V4><@ABV, 1> :>@C 25@18, 0 0 2E>48BL 4> A:;04C ?@5?0@0BC, 7 >15@56=VABN A;V4 70AB>A>2C20B8 ?@8 0;>3>;L=V9 70;56=>ABV.
@8 28<8=5=>V 0;5@3VG=8E @50:FV9 G8 35<<@03V9 ;V:C20=O A;V4 ?@8?8<8B8.
@8 =5>1EV4>ABV 70AB>AC20=O ?@5?0@0BC ?@8 >AB@>4>=>G0A=>AC20=V 7 A0;VF8;0B0<8 01> V=H8<8 @5:><5=4>20=> 725@=CB8AO 4> ;V:0@O.

0AB>AC20=O C ?5@V>4 203VB=>ABV 01> 3>4C20=O 3@C44N.
@5?0@0B ?@>B8?>:070=89 C ?5@V>4 203VB=>ABV 01> 3>4C20=O 3@C44N. 0 ?5@V>4 ;V:C20=O ?@5?0@0B>A;V4 ?@8?8=8B8 3>4C20=O 3@C44N.

40B=VABL 2?;820B8 =0 H284;VABL @50:FPV ?@8 :5@C20=V 02B>B@0=A?>@B< 01> V=H8<8 <5E0=V7<0<8.
>A;V465=O 1>4> 2?;82;0@0BC =0 740B=VABL :5@C20B8 02B>>1V;5< B0 V=H8<8 <5E0=V7<0<8 =5 ?@>2>48;8AL. !;V4 1CB8 >15@56=8<8 ?@8 :5@C20=V B@0=A?>@B=8<8 70A>10<8 B0 28>=>0=V @>1VB, 1> ?>B@>51CNBL C2038. # 28?04:C ?>O28 A=>;82>ABV, 2B<;N20>ABV, 70?0<@>G5=O 01> ?>@CH5=L 7>@C :5@C20=O 02B>B@0=A?>@B< 01> V=H8<8 <5E0=V7<0<8 701>@>=5=>.

! ?>AV1 70AB>AC20=O B0 4>78.
@89<0B8 2=CB@VH=L>4>@>A;8< ?> 1 B01;5BFV 2 @078 0=4>1C ?V4 GOA W6V. >1>20 4>70
2 B01;5B:8. >BV< ?@89<0B8 >? 1 B01;5BFV 4;O ?V4B@8>; ;V:C20=O.
"@820;VABL ;V:C20=O 287<0G0T ;V:0@ V=482V4C0;L>? 70;56=> 2V4 E0@0:B5@C 70E2>@N20=O.
0728G09 :C@A ;V:C20=O AB0>28BL 4<6 B86=V2.

V/88.
@5?0@0B =5 70AB>A>2C20B8 4VBO

5@54>7C20=O.
0 40=89 G0A ?@C 02810 ?5@54>7C20=O ?@8 70AB>AC20=V ?@5?0@0BC =5 ?>2V4><;O>AO. 07< 7 B8< <>6=0 ?@8?CAB8B8, 1> ?@8 ?V42815=V 281>W 4>1>2>W 4>78 <>6;825 ?>A8;5=O ?@>O2V2 ?>1VG=>W 4VW ?@5?0@0BC,<65 A?>AB5@V30B8AO 2V4GCBBO =57<0G=>W =C4>B8, <>6;8289 1V;L 2 ?5V30AB@0;L=V9 4V;O=;FV;<5B5>@87<, 4V0@5O. V:C20=O A8<0B8G=5.

>1VG=V @50:FPV.
1>;C VW A8AB5<8; 0;5@3VG=V @50:FPV, 2;NG0NG8 0=0DV;0:B8G=V @50:FPV, 0=3V>=52@>B8G=89 =01@O:.
1>;C H:V@8 B0 ?V4H:V@=>W :? ;VB>28=8: H:V@=V 28A8?0=O. :@>?82'O=0, @50:FPV D>B>GCB;82>ABV,2V4GCBBO A25@156C, 5@8B5<0, 45@<0B8B, <0C;>?0?C;L>7=V 28A8?0=O.
1>;C B@02=>3> B@0>BC 48A?5?8B8=V @>7;048, =C4>B0, 1;N20=O, 1V;L C 682>BV;?5GVO, 2V4@86<0, 70?>@, 4V0@50, <5B5>@87<, :8H:>2V A?0?<8, 7010@2;5=O 28?>@>6=5=L C B5<=89 :>;V@.
1>;C =5@2>2>W A8AB5<8: 70?0<@>G5=O, HC< C 2CE0E, A=>;82VABL, 3>;>2=89 1V;L, 157A==O, ?V42815=0 2B<;N20=VABL, 7=5@2>20=VABL
=HV' 0AB<0, 28?040=O 2>=>AAO, @>7;048 ?>@C, 7030;L=0 A;01:VABL,A8=;FV, =01@O:8.

"5@ABV.
4 @>8.

#<>28 715@V30=O. 15@V30B8 ?@8 B3C=54>ABC?=>VB59

#?0>2.0.
> 12 B01;5B>; C 1;VAB5@V; ?> 5 1;VAB5@V2 C :0@B>=V9 ?0GFV;
> 15 B01;5B>; C 1;VAB5@V; ?> 4 1;VAB5@8 C :0@B>=V9 ?0GFV.

0B53>@VO 2V4?CA:C. 57 @5F5?B0.

8@>1=8:.
2AB@0;V0= \$0@<0ALNBV:0; 0=CD5:BC@5@A BV B4.

VAF57=0E>465=O 28@>1=8:0 B0 9>3> 04@5A020465=O 4VO;L=>ABV.
25 V:5@V=3 >C4, 0;3@592 V:B>@VO 3170, 2AB@0;VO.