

!"#&/

4;O<548G=>3>70AB>AC20==O?@5?0@0BC

"(!" "- /

!::04;V:0@AL:>3>70A>1C:

4VNG0@5G>28=0: cynara scolymus;

1:0?AC;0:05:AB@0:BCACE>3>(7,5:1)(5:AB@035=B2>40>G8I5=0)C?5@5@0EC20==V=0ACEC@5G>28=C100<301>300<3;
4>?>28=8:;0B>78<=>3V4@0B,:@5<=VN4V>:A84.>;>W4=891572>4=89,:0;LFVNAB50@0B,:@>A?>2V4>;>1>;=:0:0?AC;8:A84(171),6>2B8970EV4FCF(110),
65;0B8=(4>7C20==O100<3)01>B8B0=C4V>:A84(171),5@8B@>78=(127),EV=>;V=>2896>2B89(104),V=483>:0@/4>7C20==O300<3).

V:0@AL:0D>@<0.□0?AC;8.

"25@4V65;0B8=>2V:0?AC;87:>@8H5G:>N V:>@?CA><>@0=652>3>:>;L>@C(4>7C20==O100<3)01>7:>@8H5G:>N75;5=>3>:>;L>@C V:>@?CA><6>2B>3>:>;L>@C
(4>7C20==O300<3).3@0=C;L>20=89?>@>H>:2V4A2VB;>:>:@8G=52>3>7AV@8:2V4BV=:><4>B5<=>:>:@8G=52>3>7AV@8<2V4BV=:><:>;L>@C.>?CA:0TBLAO
=002=VABL2::NG5=L1V;>3>:>;L>@C,>?>@>H:C V03@530BV2G0AB>:>?>@>H:C.

0720V465==O28@>1=8:0.

"«\$0@<0F52B8G=0:>@>2O».

#:0W=0,61013,

\$0@<0>:B5@0?52B8G=03@C?0.0A>18,I>70AB>A>2CNBLAO?@870E2>@N20==OE?5GV=:8V6>2G>282V4=8EH;OEV2.0A>18,I>70AB>A>2CNBLAO?@8
1V;V0@=V9?0B>=>3VW.>4"!05%.
@5?0@0B@>A;8=>3>?>E>465==O,I>5:AB@0:B0@B8H>:0.'8=8BL6>2G>3V==C,35?0B>?@>B5:B>@=C,A5G>3V==C4VN.

\$0@<0>:>;>3VG=895D5:B>1C<>2,5=89:><1V>;>3VG=>0:B82=8E@5G>28=,I>2E>4OBL4>A:;04C?@5?0@0BC:F8=0@8=,E;>@>35=>20:8A;>B0,
0A:>@1V=>20:8A;>B0,:0@>B8=,2VB02=04VNG0@5G>28=0?@5?0@0BCF8=0@8=<0T,2>A=>2=>E>;5@5B8G=C4VN.%>;5:V=5B8G=04VO28@065=0C
<5=HV9@1V=>20:8A;>B0,:0@>B8=,2VB0:0!CNBL?@>F5A8>1

@5?0@0BAB82G>284V;5==O,7=86CT@V25=L E>;5AB5@8=C C:@>2V,AB8F8BV2,G8=8BLA5G>3V==C V3V?>;V?V454VN.<5=HCT2V4GCBBO?5@5?>2=5==O01>
@>7B03=5==O H;C=:0,CAC20T A?07
!@>8OT284V;5==N7>@30=V7A5G>28=8,:@50B8=V=C,0B0:>6B>:A8=V2(CB.G.=VB@>A?>;C:,0;0;>W4V2,A>;59206:8E<5B0;V2).

>:070==O4;O70AB>AC20==O,8A:V=57V06>2G=8EH;OEV2703V?>B>=VG=>:3V?>:V=5B8G=8<B8?<,>E@>=VG=89=5:0;L:C;L>7=89E>;5F8AB8B,E@>=VG=89
35?0B8B@V7=>W5BV>;>3VW,E@>=VG=0=8@>:20=54>AB0B=VABL,E@>=VG=V V=B>:A8:0FVW(35?0B>B>:A8G=8<8@5G>28=0<8,=VB@>A?>;C:0<8,0;0;>W40<8,
A>;0<8206:8E<5B0;V2),48A?5?A8G=V@>7;048(206:VABL25?V30AB@VW,<5B5>@87<,>=C4>B0,2V4@86:0).

@>B8?>:070==O.

V428I5=0GCB;82VABL4>=>5=BV2?@5?0@0BC/V=H8E@>A;8=@>48=8A:;04=>F2VB8E(09AB@>28E),=5?@>EV4=VABL6>2G=8E01>A5G>282V4=8EH;OEV2,
=03=>T=O(52G=>3>2G=>:0<0=0E2>@>10,3>AB@8935?0B8B,BO6:0?5GV=:>20=54>AB0B=VABL,3>AB@V70E2>@N20==O=8@>:.

0;56=V70E>48157?5:8?@870AB>AC20==V.

5@54?5@H8<?@89><<<?@5?0@0BC?@>:=AC;LBC9B5AO7;V:0@5=AC;LB0FVW;V:0@O=570AB>A>2C9B5?@5?0@0B4>2H52AB0=>2;5=>3>B5@
0AB>A>2C20B87>15@56=VABN?@870E2>@N20==OE,I><<6CBL?@8725AB84>=5?@>EV4=>ABV6>2G=8EH;OEV2B0?@8BO6:8E70E2>@N20==OE?5GV=:8./!>
A8<870E2>@N20==O=57=8:0NBL01>?>ABV9=>@5F8482CNBL01>C28?04:C28=8:5==O4V0@5W01>1>;N2682>BV;V:C20==O?@5?0@0B<A;V4?@8?8=8B8B0
?@>:=AC;LBC20B8AO7;V:0@5
#?5@V>4;V:C20==O A;V4CB@80;:>3>;N.@8B@820;>AC20==V?@5?0@0BC7=86CTBLAO@V25=L07>B2@5G>28=V E>;5AB5@8=C C:@>2V.@5?0@0B7C,B>

A>1;82V70AB5@565==O.

I>2O7:>2>?>2V4>0HC?>?5@54=N@50:FVN=0?@89><?@5?0@0BV2FVTW3@C?8.

0AB>AC20==O C?5@V>4203VB=>ABV01>3>4C20==O3@C44N.

0AB>AC20==O?@5?0@0BC C?5@V>4203VB=>ABV<<6;82570?@87=0G5==O<;V:0@O BV;L:8B>4V,>;8>GV:C20=0>@8ABL4;O<0B5@V?5@528ICT?>B5=V9=89
@878:4;O?>40.0=5>1EV4=>ABV70AB>AC20==O?@5?0@0BC3>4C20==O3@C44N A;V4?@8?8=8B8.

40B=VABL2?;820B8=0H284:VABL@50:FVW?@8:5@C20==V02B>B@0=A?>@B<0I>@>I>BV7V=H8<8<5E0=V7<0<8.52?;820T.

VB8.0AB>A>2C20B84VBO<2V><2V46@>:V2.

!>AV170AB>AC20==O B04>78.

>7C B0B@820;VABL70AB>AC20==O;V:0@2AB0=>2;NTV=482V4C0:L=>70;56=>2V4BO6:>ABV70E2>@N20==O!

@89<0B87015-30E24>W48.□>@>A;8<V4VBO<2V><2V412@>:V2?>200-300<33@078=04>1C.

VBO<2V><2V464>12@>:V2?>100<33@078=04>1C.

"@820;VABL:C@AC;V:C20==OAB0=>28BL2-4B86=V.V:C20==O<6=0?>2B>@8B8?VA;O?5@5@2821-23>482H87;V:0@5

5@54>7C20==O.8?04:8?5@54>7C20==O=5>?8A0=V.>6;825?>A8;5==O?>1VG=8E5D5:BV2?@5?0@0BC.

V:C20==O:2V4<820==O H;C=:0,A8<0B8G=0B5@0?VO.!?5F8DVG=890=B84>B2V4ACB=V9.

>1VG=V5D5:B8.

@8B@820;>AC20==V?@5?0@0BC C28A>:8E4>70E<<6;82V4V0@5O,1V;L C25@E=V9G0AB8=V682>B0,=C4>B0V?5GVO,0;5@3VG=V@50:FVW.

#@07V28=8:5==O1C4L-O:8E=5728G=8E@50:FV9>I>2?O7:>2>?>@04LB5AO7;V:0@5<I>4>?>40;LH>3>70AB>AC20==O?@5?0@0BC.

70T<<4VO7V=H8<8;V:0@AL:8<870A>10<8B0V=HV2848270T<<4V9.

/I>8?@89<0TB51C4L-O:V V=HV;V:0@AL:V70A>18,>I>2O7:>2>?@>:=AC;LBC9B5AO7;V:0@5<I>4><<6;82>ABV70AB>AC20==O?@5?0@0BC!

@5?0@0B<<65?>A;01;N20B84VN0=B8:>03C;O=BV2B8?C:C<0@8=C(D5=?@>:C<=>,20@D0@8=),I>28<030T:>@5:FVW4>78>AB0==VE.@8>4>=>G0A=>AC20==V
?@5?0@0BC73V?>07>B5V3V?>E>;5AB5@8=570A>10<8<<6;825?>A8;5==O3V?>07>B53>V3V?>E>;5AB5@8=53>5D5:BV2.

"5@ABV.3@>:8(4>7C20==O100<3),2@>:8(4>7C20==O300<3).

#<<28715@V30==O.15@V30B82>@83V=0;L=V9C?0:>2FV?@8B5□.15@V30B8C=54>ABC?=>

#?0:>2:0.0?AC;8?>100<310×2,10×6C1;VAB5@0E C:>@>1FV01>?>300<310×□□0×6C1;VAB5@0E C:>@>1FV.

0B53>@VO2V4?CA:C.57@5F5?B0.