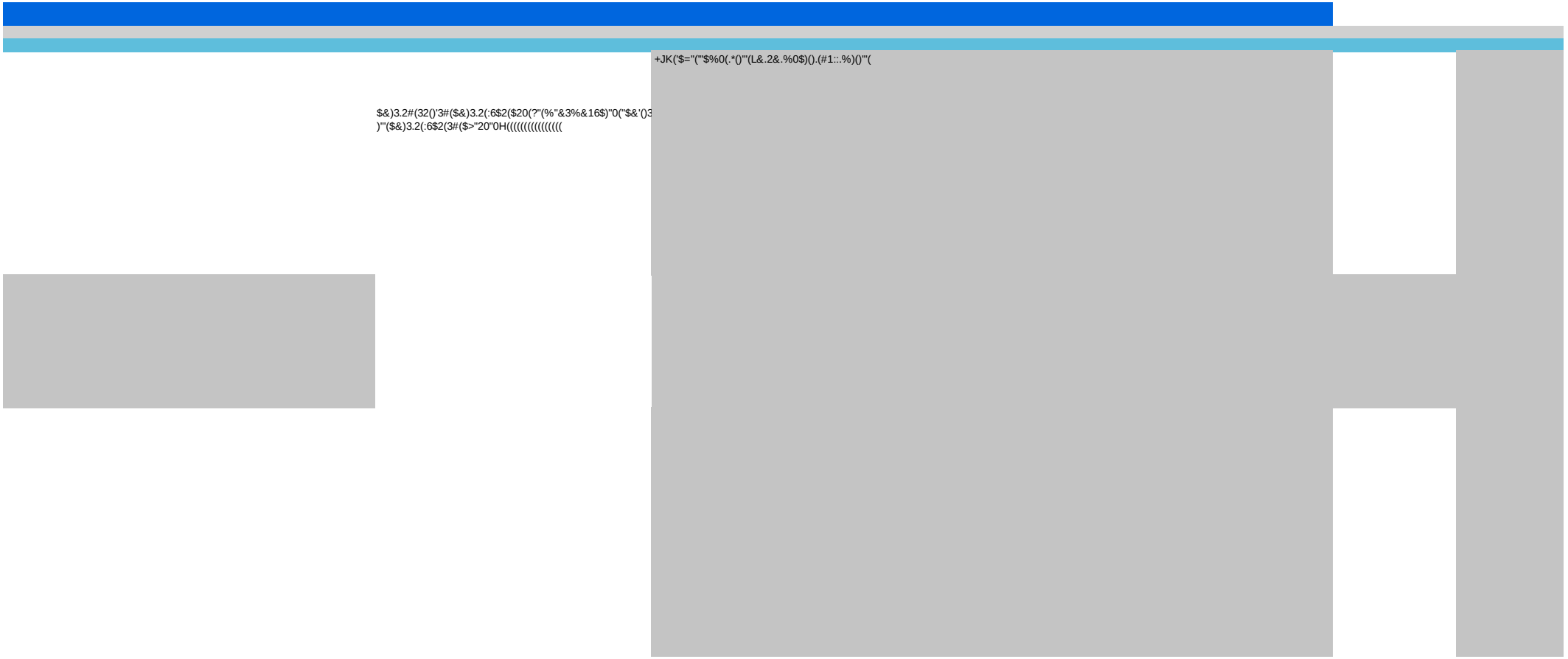
!"#$%$&$%'"(")*+,

!"#$%&'
-'.)/(0+$ +/5 $ -'.)/(0+$ +/5 $

) n BT /CS0 cs 0 0 0 7cn 0 53.7 0 0 s 2"!"#$%$&$%'"(" ($)-16 (%')-2453)/,!"#$%$&$%'%$

("



RVC
Royal
Veterinary
College
University of London

BUQ	!"=3"E()"'(3>:$&)(.*(%"6"=$2)(*12032/(&$66(%"V13%">"2)#(.2(%"#"$%&'"%#I(">:6.7>"2)T(:$%)3&16$%67(32(%"6$)3.2().(&$%""% :%./%"##3.2($20(6$&W(.*(k.?(#"&1%3)7	2$	P"E
BUb	O1::.%)(32#)3)1)3.2#().(0"="6.:(:.63&3"#($20(*%$>"E.%W#().(:%.>.)' #1#)32?6"(">:6.7>"2)($%%$2/">"2)#($20("2'$2&"(k.?(#"&1%3)7T($20(:%.=30"(.::.%)123)3"#(*.%(&$%""%(:%./%"##3.2	2$	-QH8
BU8	9.2#30"%()"'(?$6$2&"(.*()"'3%(%"6"=$2)(*12032/(#)%"$>#(32(:%.=3($&&"##().(%"#"$%&'(*12032/($20(3)#(3>:$&)($)($66(&$%""%(6"="6	2$	P"E
=$+$>"2'*-1*2""$2/)"2'*9,'#4			
B^D	f20"%)$W"(%"6"=$2)()%$3232/($20(0"="6.:>"2)(.::.%)123)3"#(#.()'$)( )"'7(&$2(>2/"(%"#"$%&'"%#("'**"&)3="67($20(*16*36()"'3%(01)7(.*		

B!8	!"&./23#"($20($&)(.2()'"3%(%.6"($#(W'"7(#)$W'".60"%#(E3)'32()'"3%(32#)3)1)3.2($20()'"(E30"%($&$0">3&(&.>>123)7	(!9RS(&.2)%3?1)3.2($20(.)'"%(%"#"$%&'(&.>>3))""#()'$)()'"7('$="(%":%"#"2)$)3.2(.2](:$%)3&3:$)3.2(32(#1%="7#().(32*.%>($&)3.2#](-$%)3&3:$)3.2(32(&.2#16)$)3.2#(.2(:.63&	`JK(%"#:.2#"(%$)"(32(#1%="7#](>321)"#(.*(&.>>3))""#]	:%.>:)"0(?7((>"")32/#	!F	-dHQ	
A2-1""%-+$&*$+,*:$2""2*!"8"&-39"+#							
;+'#%#,#%-+'*9,'#4							
-9NCD	-%.=30"(.::.%)123)3"#T(#)%1&)1%"0(#1::.%)T("2&.1%$/">")2)($20()3*.%(%"#"$%&""%#().("2/$/"(32($(>323>1>(.*(DJ(0$7#(:%.*'##3.2$6(0"="6.:>")2)(:%.(%$)$(:"%(7"$%T(%"&./23#32/()'$)(%"#"$%&""%#(E3:1%#1"(&$%""%#($&%.##($(E30"(%$2/"(.*(">:6.7>")2)(#"&).%#	$@(C2="#)3/$)"($20(&.2#16)(.2()'"(32)%.01&)3.2(.*($(9.66'E30"(#&">")'()$)(:%.=30"#(*.%(0"03&$)"0(B9!()%$3232/()3>="(%"7(>.2)'H(<-%.:.#$6(*.%('$6*($(0$7($(>.2)'@(?@(-%.>.)3.2(.*(!]9("G:"&)$)3.2#($20(/130"632"#(%"/$%032/(%"#"$%&""%(0"="6.:>")2)($20(&.>>3)>")2))().(DJ(0$7#H&@(9.2)321"0(0"="6.:>")2)(.*(:%./%$>>")(.*(.::.%)123)3"#0@(-%.>.)3.2(.*(2"E(&.$&'32/(#&""">")T(>")2).%32/(#&""">"($20(#'$0.E32/(.::.%)123)3"#]"@(!"/16$%(>"##$/32/(*%.>(_;N#().(#1::.%)($20("2&.1%$/"()'3#H(	P.(B9!#('$="(6"##()'$2($(0$7(.2(0"="6.:>")2)(32(2"G)(#1%="7(<&1%%")2)67(QJK@](((((9.2)321.1#(:%./%"##().E$%0#($66(B9!#('$=32/(DJ(0$7#(0"="6.:>")2)(<&1%%")2)67(DdK5()$%/")(DJJK@]f:)$W"(.*(:%.*'##3.2$6(0"="6.:>")2)($20()%$3232/(.::.%)123)3"#(*%.>(&1%%")2)(bQK(<01%32/(9;[CN5D6.&W0.E2@().($?.="(dJK(?7(QJQD](((0@(+JK(.*()'.#>")2).%"0(E.160(%"&.>>"20()'3#().(.)'"%#($20(DJK(.*(B9!#('$="($(>")2).%($)($27(.2"()3>"H	$@(e167(QJQD?@($221$667(3F:%36(:%3.%().(>$32($:.%$3#$6l#"$#.2l]&@(0@($20("@.2/.32/](;="%$66()$%/")(?7(O1>>"%(QJQQ	_!($20(!9RS	-bHD-bHb-dHd	B2'$2&"($E$%"2"##()'$)(%"#"$%&""%#($%"2&.1%$/"'0().("2/$/"(32($(>323>1>(.*(DJ(0$7#(.*(:%.*'##3.2$6(0"="6.:>")2)(((((B2'$2&32/()'"(%$2/"(.*(0"="6.:>")2)(.2(.**"%().(%"#"$%&""%#
-9NCQ	-%.=30"()%$3232/T(#)%1&)1%"0(#1::.%)T($20()3>"(*.%(>$2$/"%#()"2/$/"(32(>"$232/*16(&$%""%(0"="6.:>")2)(%"=3"E#(E3)'()'"3%(%"#"$%&""%#	$@(N"="6.:>")2)(.*(/130$2&"($20($(*%$>"E.%W(*.%(&.201&)32/(&$%""%(0"="6.:>")2)(%"=3"E#H?@(9.2)321"0(:%.=3#3.2(.*($:.%$3#$6()%$3232/($20(					

!"#$%"#&'(%)*#+,-*# ./0(/12/3#4545#6#./0(/12/3#4544

-9NCd	!"&./23#"()'$)(>.=32/(?")E""2T($20(E.%W32/($&%.##T(">:6.7>"2)(#"&).%#(&$2(?%32/(?"2"*3)#().(%"#"$%&'($20(%"#"$%&'"%#T($20 #1::.%)(.:::.%)123)3"#(*.%(%"#"$%&'"%#().("G:"%3"2&"()'3#	$@(:%.>.)"($20("=61)"(1#"(.*(U$&"?..W().(>$32)$32((&.22"&)3.2(?")E""2(&1%%"2)(%"#"$%&'(#)$**($20($61>23<)'3#(0"="6.:#($20(%":6$&"#()'"(*.%>"%($61>23((#&"">"@?@(&.2)321").(*.66.E(1:(2"G)(0"#)32$)3.2#(.*(%"#"$%&'"%&@(:%.>.)"()'"(&%.##(m.20.2(_B(#'$0.E32/(#&">").(%"#"$%&'"%#]((((((	+JK(.*(#1%="7(%"#:.20"2)#($/%'"()'"7('$="(#1::.%)(*.%($(E30"(%$2/"(.*(&$%'"%(:$)'#<$@(o(C2&%"$#"0(32)"%$&)3.2(.*(B9!(E3)'($61>23T($#(6$?5:6$&">"2)#T(&.66$?.%$)3="(:%.:.#$6#($20(:1?63&$)3.2#(	($@(O1>>"%(QJQD($221$667&@(2"G)(#'$0.E32/(%.120(	$@(!F?@(_!&@(_!	-bHQ -bH8	
-9NC`	^.23).%T($20(%":.%)(.2T()"'("2/$/">"2)(.*(%"#"$%&'"%#($20()"'3%(>2/"%#(E3)'(:%.*"##3.2$6(0"="6.:>"2)($&)3=3)3"#T($20(%"#"$%&'&$%'"%(0"="6.:>"2)(%"=3"E#	F>"20(%"#"$%&'"%($::"203G(32($::%$3#$6().("2$?6"(%$&W32/5(.*(0"="6.:>"2)(*.%(&1%%"2)(%.6"($20(*1)1%"($20().($#W(3*()'"7('$="($2($&)3="(9$%'"%(N"="6.:>"2)(:6$2H(<#'"(BC(d@(<2.)"()?&@	9.2)321.1#(:%./%"##().E$%0#($66(B9!#('$=32/(DJ(0$7#(0"="6.:>"2)(<&1%%"2)67(DdK5()$%/")(DJJK(?7"20(.*(QJQQ@](((((f:)$W"(.*(:%.*"##3.2$6(0"="6.:>"2)($20()%$3232/(.:::.%)123)3"#(*%.>(&1%%"2)(bQK(<01'9;[CN5D,(6.&W0.E2@().($?.="(dJK(?7(QJQD](((+JK(.*(B9!#($/%'"()'$))()'"7('$="($(&$%'"%(0"="6.:>"2)(:6$2(<9BNF!O@((((+JK(.*(%"#"$%&'"%#(%":.%)()'%.:)'"($::%$3#$6(#7#)">()'$)()'"7('$="($(&$%'"%(0"="6.:>"2)(%"=3"EZ:6$2(<QJQQ($::%$3#$6#@(	O)$)3#)3&#(:%"#"2)"0().(e$21$%7(!9RS	_!	P"E	
<,+."2'*9,'#4							
-9NUD	C2&.%:.%$)"(#:"&3*3&(:%.*"##3.2$6(0"="6.:>"2)(%"V13%">"2)#(32(%"6"=$2)(*12032/(&$66#T()"%>#($20(&.203)3.2#T(/%$2)(%":.%)32/:.63&3"#H(4'3#(#'.160(32&610"(%"#"$%&'"%#I("2/$/">"2)(32($(>323>1>(.*(DJ(0$7#I(:%.*"##3.2$6(0"="6.:>"2)(:%.(%$)$(:"%(7"$%T$20("=30"2&"(.*("**"&)3="(&$%"'"%(0"="6.:>"2)(:6$2232/	2$					-bH+ -bH,	
-9NUQ	B>?"0()"'(9.2&.%0$)(-%32&3:6"#($20(%"#"$%&'"%(0"="6.:>"2)(32).(%"#"$%&'($##"##>"2)(#)%$)"/3"#($20(:%.&"##"	2$					P"E
-9NUb	F&W2.E6"0/"()'$)($(6$%/"(:%..%)3.2(.*()'"(%"#"$%&'"%#()'"7(*120(E366(>.="(.2().(&$%'"%#(?"7.20($&$0">3$T($20(&.2#30"%('.E()'"7(&$2("2&.1%$/"($20(#1::.%)()'3#(E3)'32()'"3%(%">3)	2$					P"E
=$+$>"2'*-1*2'"'$2/)"2'*9,'#4							
-9N^D	B2/$/"(32(%"/16$%(&$%'"%(0"="6.:>"2)(03#&1##3.2#(E3)'()'"3%(%"#"$%&'"%#T(32&61032/('.6032/($(&$%'"%(0"="6.:>"2)(%"=3"E($221$667	^2/"%#().(%"*6"&)(.2()'"3%(:%$&)3&"(32(&$%'"%(0"="6.:>"2)(%"=3"E]("*%)(.(&$%'"%(%"=3"E(/130$2&"(*%$>"E.%W(E'"2()'3#('$#(?'"2(0"="6.:"0H(F::%$3#$6()%$3232/(*.%(-3#(32)%.01&"0(32&610"#(V1"#)3.2#(*.%($(0"="6.:>"2)(%"=3"E](	+JK(.*(B9!#($/%'"()'$)()'"7('$="($(&$%'"%(0"="6.:>"2)(:6$2(<9BNF!O@((($20($::%$3#$6((%$2	O":)">?"%(QJQD($20(O":)">?"%(QJQQ](9BNF!O(QJQD	!"#"$%&'(>$2$/"%#(($20(_!	-QHb	
-9N^Q	O1::.%)(%"#"$%&'"%#(32("G:6.%32/($20(:%":$%32/(*.%($(03="%#3						

-9N!D 4$W"(.E2"%#'3:(.*()""3%(&$%""%T(30"2)3*732/(:::.%)123)3"#().(E.%' !"#"$%&""%#().(?"(:%.$&)3="(32("2#1%32/()""7('$="($(
).E$%0#(&$%""%(/.$6#T(32&61032/("2/$/32/(32($(>323>1>(.*(DJ(0$ 0"="6.:>"2)(:6$2()'$)(&.="%#(:%.k"&)(%"6$)"0(0"="6.:>"2)(
:%.*"##3.2$6(0"="6.:>"2)(:%.(%$)$(:"%(7"$%