

Participant Information

Invitation

You are invited to participate in research which aims to understand the drivers that underpin the management and prevention of pregnancy loss in Australian Thoroughbred broodmares. This study is being conducted by researchers at Charles Sturt University on behalf of AgriFutures, Australia.

This Participant Information Statement tells you about the research study.

Before you decide to participate in this study, it is important for you to understand why the research is being done and what it will involve. Knowing what is involved will help you decide if you want to take part in the research. Please read this sheet carefully and ask questions about anything that you don't understand or want to know more about.

Who is running the study?

This study is being conducted by the following researchers from the School of Animal, Environmental and Veterinary Sciences at Charles Sturt University. The research team includes:

- Dr Victoria Brookes (Adjunct Senior Lecturer Population Health and Production, Charles Sturt University)
- Dr Joan Carrick (Equine medicine specialist)
- Dr Cara Wilson (Postdoctoral Researcher, Charles Sturt University)
- A/Prof Patrick Shearer (Adjunct Associate Professor Pathology, Charles Sturt University)
- Miss Caitlin Brown, (Masters of Agricultural Business Management student, Charles Sturt University)

What is the purpose of this research?

The purpose of this research is to:

- 1. Assess the current levels of knowledge and concern about pregnancy loss (the loss of a fetus between 45 days and full term) in Australian Thoroughbred broodmares and its impacts; and
- 2. Identify current farm management practices that might influence pregnancy loss and its impacts.

Why have I been invited to participate in this study?

The study population is people who currently work, or have worked in the previous 12 months, on a property on which mares used for breeding Thoroughbred racehorses are kept. You have been identified as an individual who is involved in the breeding of Thoroughbreds in Australia.

Should you choose to participate in this study it is important that you complete answers based on your <u>current knowledge</u> and <u>do not Google answers</u>. This is so we can accurately gauge what information the industry requires and how best to educate the industry on this topic in the future.

What does the study involve?

If you agree to participate you should read all of this information, then proceed to the questions. The topics in this survey include background information about the property you currently work on, or have worked on in the previous 12 months, and management practices used, your current knowledge of pregnancy loss in thoroughbreds, and your opinions about pregnancy loss. It is expected that the time required to complete the questions will be approximately 30 minutes.

The survey is voluntary and completed anonymously. More than one person from a property can respond to the survey because we are interested in individuals' responses. Specific written consent will not be requested because consent is implied if you answer the consent question at the beginning of the survey and enter responses.

Study Participation

You are eligible to participate in this study if you:

- Are over 18 years of age
- Currently, or in the previous 12 months, have worked on a property on which mares used for breeding thoroughbred racehorses are kept
- Give consent to be part of the study

Participation is voluntary

Participation in this study is completely voluntary. Because the survey is anonymous it will not be possible to remove individual responses once submitted.

If you start the survey and wish to withdraw part-way through, please close the internet browser and your responses will not be used in the analyses.

Use of your information

The information collected in this study is related to pregnancy loss in Thoroughbred broodmares. We do not require the mare's name or ownership. No personal information will be used or published in this study. Study findings will be disseminated to industry stakeholders by AgriFutures Australia. The results are also expected to be published as peer-reviewed scientific articles and presented at scientific conferences. You will not be individually identifiable in these publications. Your data will be stored securely and separately from any personal information that may identify you, and your privacy will be protected within the limits of the law.

Data management

The confidentiality of your records is of the utmost importance to us. To maintain privacy and confidentiality, this survey has been distributed by various organisations on the research team's behalf. The survey is anonymous, and it will not be possible to identify you from your answers. Any information collected by the researchers will be stored securely and only accessed by the researchers unless you consent otherwise, except as required by law. The SurveyMonkey platform is being used for this survey and the privacy policy and security statement relating to online survey data are available by clicking on these word links.

Information will be stored electronically and be kept secure by password. Access to the data will only be granted to the investigators listed on the project. Results from the study will not contain any identifiable information. Strict confidentiality will be maintained. Any information collected will not be passed onto a third party. A copy of the research data management plan will be made available to you on your request.

Data will be retained for 5 years following final publication to ensure adequate time for analysis and completion of the investigation. It is unlikely that any of the data collected will be used for future research, and following this period, the data will be destroyed.

Are there any risks or costs associated with being in the study?

We do not expect that there will be any risks or costs associated with taking part in this study, aside from giving up your time as a participant. We assure you that participation in this research is anonymous and voluntary.

Are there any benefits associated with being in the study?

There are no direct benefits of being involved in the study. Indirectly, improved understanding of the knowledge, attitudes and practices of horse breeders, owners, managers and stud farms will allow for management practices and strategies to be developed and targeted to reduce the risks associated with equine pregnancy loss, improve mare welfare and reduce the negative economic impacts of pregnancy loss.

Will I be told the results of the study?

Yes, participants will be able to access results of the study via AgriFutures Australia.

Funding

This study is being funded by AgriFutures Australia (www.agrifutures.com.au) as part of a five-year RD&E plan for the AgriFutures Thoroughbred Horses Program. All research is being overseen by Charles Sturt University. If you would like to know more about the study at any stage, please contact the researchers (contact details below).

Who should I contact if I want to discuss this study further before I decide?

If you would like to know more about the study at any stage, please contact:

Dr Cara Wilson

School of Agricultural, Environmental and Veterinary Sciences,

Faculty of Science and Health,

Charles Sturt University Email: cwilson@csu.edu.au Phone: 0457 041 192

Who should I contact if I have concerns about the conduct of the study?

Charles Sturt University's Human Research Ethics Committee has approved this project [Protocol number: H22081]. If you have any complaints or reservations about the ethical conduct of this project, you may contact the Committee on (02) 6933 4213 or ethics@csu.edu.au.

Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.

Support services

Being involved in Thoroughbred breeding can be both rewarding and difficult. If you are experiencing distress, need support or know of someone who does there are support services available to call:

- AVA Telephone counselling service 1300 687 327
- SANDS (Support for stillbirth and newborn death) -1300 072 637
- Lifeline 13 11 14
- Suicide Call Back Service 1300 659 467
- Beyond Blue 1300 22 46 36

You can print screen (screen shot) this Participant Information to retain a copy for your records.



Qualifier questions * 1. Do you give your consent to participate in this study? O Yes O No * 2. Are you 18 years of age or older? O Yes O No * 3. Do you currently work, or within the last 12 months have you worked, with mares that are used for breeding Thoroughbred horses? O Yes O No



Demographics

	\$
* 5. What is your	gender?
Male	
Female	
On-Binary	
Prefer not to sa	у
* 6. What is the h	ghest level of education you have completed?
Year 10 or belo	v
Year 11	
Year 12 (HSC o	equivalent)
Certificate III o	· IV
Oiploma / Adva	nced Diploma
Bachelor degre	•
Graduate Certi	icate / Graduate Diploma
O Post Graduate	legree
Prefer not to sa	у
How many years	nave you worked in the equine industry?



information sources
8. From where do you currently obtain information about mare reproductive health? (Please select all that apply)
Veterinarian
Stud manager
Participation in training courses
Equine magazines
Thoroughbred Breeders Australia
Colleagues
Other mare owners
Other (please specify)



Your role

st 9. Please indicate your role/s with mares in the Thoroughbred industry:
(Please select all that apply)
Thoroughbred mare owner (but don't manage them personally)
Thoroughbred mare owner (managed myself)
Stud manager
Pregnant, foaling or wet mares manager
Dry mare manager
Night watch
Stud worker (other than manager or night watch)
Veterinarian
Other (please specify)
* 10. How many studs / properties do you currently work on?
<u>2</u>
3 or more



Property / Stud information

If you work on more than one property / stud, please answer ALL the following questions based on the property / stud you WORK ON MOST.

ost on located?
◯ TAS
○ SA
○ WA
○ NT
on on this property?
ried out on this property?



Cropping				
Beef cattle				
Sheep				
Other (please	specify)			
			<i>[</i> 2	



Australian Thoroughbred broodmares	
Stallions	

Stanions		
* 15. Are stallions stood at this proper	ty?	
Yes		
○ No		



Understanding the drivers of pregnancy loss management and prevention in Australian Thoroughbred broodmares $% \left(1\right) =\left(1\right) +\left(1\right)$

* 16. Are any of the stallions stood at this property shuttle stallions (travel between

 $northern\ and\ southern\ hemispheres\ for\ breeding\ seasons)?$

O Yes

Stallions

O No



Mares	
* 17. Does this property have walk-on mares? Yes No	



Mares
* 18. Does this property have seasonal mares (mares that are only resident on the stud
during the breeding season)? Yes No



Biosecurity

* 19. What biosecurity measures are in place on this property? (Please select all that apply)
Horses arriving for an extended period are quarantined
Boot wash for visitors to the property
Boot wash for staff moving between sections of the property (e.g. dry to wet mare yards)
Regular vaccination of mares for infectious diseases
Designated parking areas for visitors and contractors away from horse traffic areas
Dedicated on-site work boots (i.e. staff do not wear the same boots home)
Dedicated on-site clothing (i.e. staff do not wear the same clothes home)
Faeces are removed from paddocks at least weekly
Stables are cleaned out completely between horses
Breezeways are swept and washed down so that no faeces or feed lays around from day to day
Hand washing facilities in all sections of the property
Walk-on mares are isolated from all resident mares
Boundary of property is double fenced
Internal fences are double fenced
Isolation area for sick horses
Showering facilities
Full Personal Protective Equipment (Overalls, gloves, masks, boot covers) are available if required
Other (please specify)
No biosecurity measures are in place

Vermin (e.g. mice and rats)
Flies
Mosquitoes
Birds
Other (please specify)
None of the above



Pest control
21. Please describe the type/s of vermin control used and where it is used:
22. Please describe the type/s of fly control used and where it is used:
23. Please describe the type/s of mosquito control used and where it is used:
24. Please describe the type/s of bird control used and where it is used:
25. Please describe the type/s of other pest control used and where it is used:



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Pregnancy	

Double fenced to road Double fenced between paddocks Single fenced to road Single fenced between paddocks Non-native tree lines Native tree lines Native trees in paddock (fenced) Native trees in paddock (unfenced) Non-native trees in paddock (fenced) Non-native trees in paddock (unfenced)	Adjacent to other horse paddocks Adjacent to paddocks with other livestock Adjacent to bushland Adjacent to highway / main road Adjacent to public dirt road Shade structure / shelter Access to dam Access to creek, river or other natural water source
Single fenced to road Single fenced between paddocks Non-native tree lines Native tree lines Native trees in paddock (fenced) Native trees in paddock (unfenced) Non-native trees in paddock (fenced)	Adjacent to bushland Adjacent to highway / main road Adjacent to public dirt road Shade structure / shelter Access to dam Access to creek, river or other natural water
Single fenced between paddocks Non-native tree lines Native tree lines Native trees in paddock (fenced) Native trees in paddock (unfenced) Non-native trees in paddock (fenced)	Adjacent to highway / main road Adjacent to public dirt road Shade structure / shelter Access to dam Access to creek, river or other natural water
Non-native tree lines Native tree lines Native trees in paddock (fenced) Native trees in paddock (unfenced) Non-native trees in paddock (fenced)	Adjacent to public dirt road Shade structure / shelter Access to dam Access to creek, river or other natural water
Native tree lines Native trees in paddock (fenced) Native trees in paddock (unfenced) Non-native trees in paddock (fenced)	Shade structure / shelter Access to dam Access to creek, river or other natural water
Native trees in paddock (fenced) Native trees in paddock (unfenced) Non-native trees in paddock (fenced)	Access to dam Access to creek, river or other natural water
Native trees in paddock (unfenced) Non-native trees in paddock (fenced)	Access to creek, river or other natural water
Non-native trees in paddock (fenced)	
	Source
Non-native trees in paddock (unfenced)	Motor trough shared with adjacent naddeals
	Water trough shared with adjacent paddock yard
Native pasture	Stand alone water trough
Improved pasture	Feed buckets / water troughs under trees
Irrigated	Birds such as galahs and cockatoos congrega
Flat terrain that could flood with heavy rain	Bats roost in trees
None of the above	
Please add any other features that might not ail about any of the above:	t have been listed, and/or provide more



Scanning
st 28. Are pregnant mares ever scanned after 45 days gestation and up to the foaling season?
Yes
○ No ○ Don't know



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Scanning	
29. Please explain when the mares are scanned and the reasons for the scans:	



Pregnancy loss
Pregnancy loss is the loss of a fetus between 45 days and full term.
* 30. Over the past 5 years, have any mares on this property experienced <i>early</i> fetal loss (46-150 days gestation)?
Yes
○ No
On't know
* 31. Over the past 5 years, have any mares on this property experienced <i>mid-term</i> pregnancy loss (151-270 days gestation)? Yes No Don't know
* 32. Over the past 5 years, have any mares on this property experienced <i>late-term</i> pregnancy loss (> 270 days gestation)?
Yes
○ No
On't know



Australian Thoroughbreu broouhlares
Training
* 33. Have you done any specific training around prevention of pregnancy loss in mares?
○ Yes
○ No



Australian Thoroughbrea broodinares
Training
34. What training have you done and/or are you doing?



No training
35. What are the reasons for this?



Procedures
* 36. Are all staff required to be vaccinated against Q-Fever? Yes
No, but waiver must be signed
○ No
* 37. Does this property have any specific procedures in place to prevent pregnancy loss?
Yes
○ No



Australian Thoroughbrea broodinares
Procedures
38. What are the reasons for this?
39. Please list the top two procedures that you think are most effective for preventing
pregnancy loss in mares (even if not used on this property):



Procedures

lea	ase select all that apply)
	On advice from a vet, give regumate / altrenogest
	Give regumate / altrenogest if the mare had it in a previous pregnancy
	Speak to specialist vets
	Regular vet check-ups for mares
	Regular scans
	Put mares in paddocks that are considered less likely to be associated with pregnancy loss
	Put high risk mares in easier to check paddocks
	Regularly check paddocks for caterpillars and remove them if required
	Check mares daily from a distance (e.g. drive by paddock)
	Check mares daily closely (i.e. physically in paddock)
	EHV vaccination
	Other (please specify)
	ase list the top two procedures that you think are most effective for preventing ncy loss in mares (even if not used on this property):



Other diseases		
Lithar Algagag		

Other diseases
* 42. Are precautions taken for any specific diseases in mares, other than for pregnancy loss?
○ No



No precautions	
43. Why not?	



Precautions
44. What specific diseases are precautions taken for?
45. Why are precautions taken on this property for these specific diseases?



Identification

* 46. What are the most common ways you would identify a mare that could be experiencing, or has just experienced, a pregnancy loss on this property? (Please select all that apply)		
Pregnancy loss was seen		
Dead fetus or fetal material material found in paddock, yard or stall		
Mare scanned empty after previously confirmed pregnant		
Mare seen in distress		
Vaginal discharge		
Early udder development		
Symptoms of colic		
Change of behaviour		
Other (please specify)		
Don't know		



Pregnancy loss
47. What happens when a pregnancy loss is identified at the time it occurs (i.e. NOT a mare that is found empty when scanned) on this property? (Please select all that apply)
Mare is isolated
PPE must be worn around affected mare(s)
If it can be found, fetal material is collected
Other (please specify)
* 48. If found, are fetal membranes (placenta) always inspected AFTER FOALING?
Yes
○ Sometimes
○ No



Australian Thoroughbroa broodinares
Pregnancy loss
49. Please list reasons why membranes, if found, are not inspected after foaling?



Pregnancy loss
* 50. If found, are fetal membranes (placenta) always inspected after ABORTION? — Yes
Sometimes
○ No



regnancy loss					
E1. Diagon list the massens why membranes if found are not increated after an about 12.					
1. Please list the reasons why membranes, if found, are not inspected after an abortion?					



* 52. Are mares with pregnancy losses examined by a vet at this property? Always Sometimes Never Not sure * 53. If found, are fetuses and membranes submitted for post-mortem examination? Always Sometimes Never Never Not sure



Post-mortem
54. Why are the fetuses and membranes not submitted for post-mortem?
54. Why are the retuses and membranes not submitted for post-mortem:



Post-mortem			
* 55. If aborted fetus and membranes are found, what factors influence whether a fetal post-mortem is conducted?			
(Please select all that apply)			
Stage of pregnancy			
Wellness of mare			
Client ability to pay for the investigation			
Dependent on suspected cause			
Concern about an outbreak occurring			
Value of mare			
Other (please specify)			
Don't know			



Disposal

* 56. If placental and/or fetal material are found, but the abortion is not going to be investigated further, how is the material disposed of?					
Carried Left in paddock					
Oisposed of at burial site on property					
Oisposed of in council waste bin					
Burned					
Collected by external service					
Other (please specify)					



Burial site	
* 57. When placental and fetal material is disposed of at a burial site on this property, is the site covered or uncovered most of the time?	
○ Covered	
Uncovered	



Australian Thoroughbred broodmares
Burial site
58. How often is the burial site covered back over?



Understanding the drivers of pregnancy loss management and prevention in Australian Thoroughbred broodmares						
	Area alerts					
	* 59. How often ar		s, studs or mare ow property?	mers in the area alo	erted to a	
	Never	Rarely	Sometimes	Every time	Not sure	



Area alerts
60. What influences whether or not other properties, studs or mare owners in the area are alerted to a pregnancy loss on this property?



Your opinion				
61. What do you believe are the most common causes of <i>early fetal</i> loss (46-150 days gestation)?				
62. What do you believe are the most common causes of <i>mid-term pregnancy</i> loss (151-270 days gestation)?				
63. What do you believe are the most common causes of <i>late-term pregnancy</i> loss (> 270 days gestation)?				
64. What factors about the individual mare do you think influence pregnancy loss?				



Your opinion

Understanding the drivers of pregnancy loss management and prevention in Australian Thoroughbred broodmares

* 65. In what age group of mares is pregnancy loss more common? < 5 years</p> 5-10 years 11-15 years >15 years O No difference between age groups On't know 66. What factors about the environment (including nutrition, weather, housing, and the paddock) do you think influence pregnancy loss? * 67. Do infectious diseases have an influence on pregnancy loss on this property? O Yes O No On't know * 68. Do you know of any causes of pregnancy loss in horses that could be harmful to humans? O Yes O No



Australian Thoroughbreu broodhares
Harmful diseases
69. To your knowledge, what causes of pregnancy loss in horses can be harmful to humans?



Seriousness of pregnancy loss					
* 70. In your opinion, how serious is equine pregnancy loss <i>for this property</i> in each of the following categories?					
	Not serious	Somewhat serious	Quite serious	Very serious	
Financial					
Animal welfare			\bigcirc		
Further spread to other mares					
Human health risk					
* 71. In your opinion, how serious is equine pregnancy loss <i>for the Australian Thoroughbred industry</i> in each of the following categories?					
	Not serious	Somewhat serious	Quite serious	Very serious	
Financial	0	0	0	0	
Animal welfare		\circ			
Further spread to other mares		\circ			
Human health risk					
72. Please add any factors not listed above that make pregnancy loss concerning for this property and/or the industry: * 73. Do you think investigating the causes of pregnancy loss and abortion in mares is beneficial? Yes No					



Investigation benefits
74. Why do think investigation is beneficial?



75. Why do think investigation is not beneficial?	



Preventative measures

Yes			
O No			



Australian i noroughbreu broodhares	
Need for preventative measures	
77. Why?	



78. Why not?	



Surveillance system support							
An industry-wide surveillance system for pregnancy loss in Thoroughbred mares could provide early warning of an outbreak of pregnancy loss, so that industry impacts could be limited.							
* 79. On the scale below, how supportive would you be of an industry-wide system for recording mare pregnancy loss (make the assumption that it is affordable)?							
Not at all supportive	Somewhat supportive	Quite supportive	Fully supportive				
80. Please explain why you gave that score: 81. What features of a surveillance system do you believe would make it MORE supported (you may include your thoughts on cost)?							
82. What features of a surveillance system do you believe would make it LESS supported							
(you may include your	thoughts on cost)?						



Thank	VOII
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Thank you for completing this survey. Your time and input are appreciated.

Please click on the 'Done' button below to finalise your survey.