DISCONTOOLS

Disease Scoring Model for Prioritisation – Interpretation guide

"Prioritising research into new or improved tools"

	Criteria	Scores					Coef	Total
Source	**Disease knowledge**	**0**	**1**	**2**	**3**	**4**	**2.5**	**/100**
Defra AP	1. Speed of spread	None Non transmissible	Very slow Low level of transmission within holdings and unlikely between holdings.	Slow Slow transmission between holdings with or without animal movements	Medium Rapid transmissions between holdings with or without animal movements	High Rapid transmission between holdings without animal movements		
CVO AP	2. Score for number of species involved	one	ND Expected to be limited	Limited 2 species	Medium 3 species	High 4 species and over		
CVO AP	3. Persistence of infectious agent In the environment	No never found	Rare occasionally found	ND if unknown	Constant animal reservoir or vector	Not removable from the environment		
CVO AP	4. Risk of spread to susceptible populations	No Not contagious or not spread in animal feed	Low Transmissible direct contact or via animal feed	ND if unknown Medium By direct contact or via feed	Medium Indirect contact, contagion or via animal feed	High Airborne infection or via animal feed		
WG Defra	5. Potential for silent spread	none	Negligible Signs of infection easily recognised and likely to occur in animals under supervision	Low Signs of infection easily recognised but depends on the level of supervision	Moderate Specific diagnosis may be difficult in one or more species	High Disease/infection not likely to be detected for some time		
WG Defra	6. Wildlife reservoir and potential spread	None no known wildlife reservoir	Minor Prevalence in remote wildlife	Moderate. Wildlife reservoir: no direct contact with humans or domestic animals	Significant Wildlife reservoir	Serious. Wildlife reservoir in close contact with humans and/or domestic animals		
CVO AP	7.Vectors reservoir and potential spread	None No known vector or reservoir	Low Competent vector(s) thought to exist in the country but not considered capable of surviving and transmitting infection	Medium Competent vector(s) exist in the country but not considered capable of surviving and transmitting infection	High Competent vector(s) exist in the country but not considered capable of surviving but could transmit infection	Very high Competent vector(s) exist in the country and is capable of surviving and transmitting infection		

CVO AP	8. Variability of the agent	Negligible One type, stable host/vector	Low few types, not mutating, stable host/vector	Moderate Few types, not mutating, low host specificity, stable vector if any	High Numerous types or mutating, low host or vector specificity	Very high Numerous types and mutating, low host or vector specificity		
WG	9. Understanding of fundamental immunology	Fully understood both humoral and cellular immunity	Fully understand humoral immunity and partial understanding of cellular immunity	Partially understand humoral and cellular immunity	Partially understand humoral immunity	None Nothing known about the immunology		
WG	10 Host pathogen interaction	Fully understand the host pathogen interactions	Understand some aspects of the hos and pathogen interactions	Partially understand the host pathogen interactions	Little understanding of the host pathogen interactions.	No information		
Source	**Impact on animal health and welfare**	**0**	**1**	**2**	**3**	**4**	**8.33**	**/100**
AP CVO Defra	1. Disease impact on production	None Production not affected	Very low Some loss of production but no major impact on income	Low Production reduced by less than 20%. Loss of income	Medium Production reduced by more than 20%. Major loss of income	Severe Production reduced by more than 50%. Major loss of income and viability of industry threatened.		
WG Defra	2. Duration of animal welfare impact	None No impact	Transient Impact less than 48 hours	Short term 48 hours to 13 days	Medium term 15 days to 24 months	Permanent Greater than 24 months		
WG Defra	3. Proportion of animals affected suffering pain/injury/distress as a result of the disease	None No animals affected	Very Low <5% of animals suffer serious impact	Low 6-20% of animals suffer serious impact	Medium 21 to 50% of animals suffer serious impact	Serious >50 % of animals suffer serious impact.		
Source	**Impact on public health - human health**	**0**	**1**	**2**	**3**	**4**	**4.16**	**/100**

AP Defra	1. Impact of occurrence on human Health	None Humans not considered susceptible to infection	Mild Symptoms mild , transient without lasting effects	Medium Symptoms may require time off work, (1week)and/or medical intervention	Serious Symptoms often provoke medical intervention, possible long term health effects (>1 month) Extreme pain and discomfort. Fatalities uncommon.	high high case fatality (>5%) and /or permanent health effects		
AP CVO	2.Likelihood of occurrence	None Proven impossibility of transmission to humans through live animals, animal products, vectors or food.	Extremely rare Probability lower than 1/1000000	Occasional Occurs at an incidence lower than 1/10000	Regular Occurs at an incidence lower than 1/1000	Frequent Occurs at an incidence higher than 1/1000		
AP WG	3. Impact of occurrence on Food Safety	No Not spread in food	Negligible Very low level of contamination of food but unlikely to cause problems	Low Low level of contamination and can cause disease/infection if organism ingested in large numbers	Medium Probability of spread via food but large nos of organisms needed to cause problems. Precautions required	High High probability of spread via food, small infective dose and strict precautions required		
AP CVO	4. Transmissibility (spread from animals to humans)	No No transmission possible	Negligible No known transmission to humans or no information	Low Possible transmission and existing contacts with live animals	Medium Possible transmission or contamination through direct or indirect contact or vector /food	High Very low species barrier, possible airborne or through the environment.		

WG Defra	5. Spread in humans	No Non-transmissible	Negligible No known transmission between humans or no information	Low Transmission between humans is uncommon	Moderate Transmission between humans requires prolonged of high level challenge	Rapid Transmission between humans occurs frequently and is common		
WG CVO	6. Bioterrorism potential	None Agent unavailable or impossible to handle or no harm	Negligible agent available but difficult to handle or low potential harm	Low agent available and easy to handle by pros and labs but low potential harm	Medium agent available and easy to handle by pros and labs and high potential harm	Severe Agent available and easy to handle by individuals and high potential harm		
Source	**Impact on wider society**	**0**	**1**	**2**	**3**	**4**	**8.33**	**/100**
AP CVO	1. Economic direct impact (including cumulative cost eg. Enzootic vs epizootic)	None No loss, no control measures	Negligible Minor reduction in production	Low Production reduced but not banned treatment and vaccination	Medium Production reduced and partially banned test and slaughter	high Production reduced and banned Total slaughter		
AP CVO	2. Economic indirect impact (social, market)	None Products continue to be distributed	Negligible Minor impact on distribution of products	Low Herd products redirected to lower value markets	Medium Market price reduced temporarily by less than 30%	High Reduction by more than 30% over a month or a country wide ban		
WG CVO	3. Agriterrorism potential	None Agent unavailable or impossible to handle or no spread	Negligible Agent available but difficult to handle or low spread or low economic damages	Low Agent available and easy to handle by professionals and labs but low spread or low economic damages	Medium Agent available and easy to handle by professionals and labs and rapidly spread or high economic damages	Severe Agent available and easy to handle by individuals and rapidly spread and great economic damages		
Source	**Impact on trade**	**0**	**1**	**2**	**3**	**4**	**6.25**	**/100**
AP CVO	1. Impact on international Trade due to existing regulations	None No restrictions or only at animal level	Minor Only at herd level	Moderate At zone level and or a list of commodities, no los of official status	Significant Zone standstill, loss of official status, short recovery period	Serious Possible nationwide ban standstill with or without list, official status difficult to recover.		

AP CVO	2. Impact on EC Trade due to existing regulations	None No restrictions or only at animal level	Minor Only at herd level	Moderate At zone level and/or list of commodities	Significant At zone level and /or no list of commodities	Serious Nationwide ban/standstill with or without list.		
WG CVO	3. Potential for regionalisation	High Regionalisation possible at farm level	Moderate regionalisation possible 1to 10 Kms	Low regionalisation possible but more than 10km	Very low regionalisation using wider administrative boundaries	Non Only compartments		
AP CVO	4. Impact on Security of Food supply	Extremely limited Anecdotal	Low value Only in some remote areas	Moderate Some remote areas may be temporarily out of stock	High Some areas of the country may be out of stock	Very high May cause or increase hunger problems		
Source	**Control tools**	**+2**	**+1**	**0**	**-1**	**-2**	**16.66**	**/100**
SRA AP CVP WG	1.Appropriate diagnostics:	Need:-yes Availability: no Market potential: low	Need:-yes Availability: No Market potential: yes	Need:-yes Availability: yes (not fully effective) Market potential: low to medium	Need:-yes Availability: yes (not fully effective) Market potential: yes	Either Need:-No Or Need: Yes Availability: yes (fully effective) Market potential: yes		
SRA AP CVO WG	2. Appropriate vaccines:	Need:-yes Availability: no Market potential: low	Need:-yes Availability: No Market potential: yes	Need:-yes Availability: yes (not fully effective) Market potential: low to medium	Need:-yes Availability: yes (not fully effective) Market potential: yes	Either Need:-No Or Need: Yes Availability: yes (fully effective) Market potential: yes		
SRA AP CVO WG	3. Appropriate pharmaceuticals:	Need:-yes Availability: no Market potential: low	Need:-yes Availability: No Market potential: yes	Need:-bacteria yes Need: Virus desirable Availability: bacteria yes (not fully effective) Availability: viruses no Market potential: low to medium	Need:-yes Availability: yes (not fully effective) Market potential: yes	Either Need:-No Or Need: Yes Availability: yes (fully effective) Market potential: yes		

Sources of information SRA Strategic Research Agenda ETPGAH May 2006
AP Action Plan of the ETPGAH August 2007
WG 2Working group 2 of DISCONTOOLS November 2008
CVO CVO Group on prioritisation 2008 http://register.consilium.europa.eu/pdf/en/08/st09/st09536-ad01.en08.pdf
Defra prototype AHW prioritisation decision support tool 2006