



An Australian Government Initiative

Farm Health & Safety
Joint Research Venture
Rural Industries R&D Corporation
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Dairy Australia

Occupational health and safety risk in the Australian Beef Cattle Industry

Chart-book of Summary Information 2005



Australian Centre for Agricultural Health and Safety

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ISBN 1 74151 144 5
ISSN 1440-6845

Occupational health and safety risk in the Australian Beef Cattle Industry
Publication No. 05/046; Project No. US-121A

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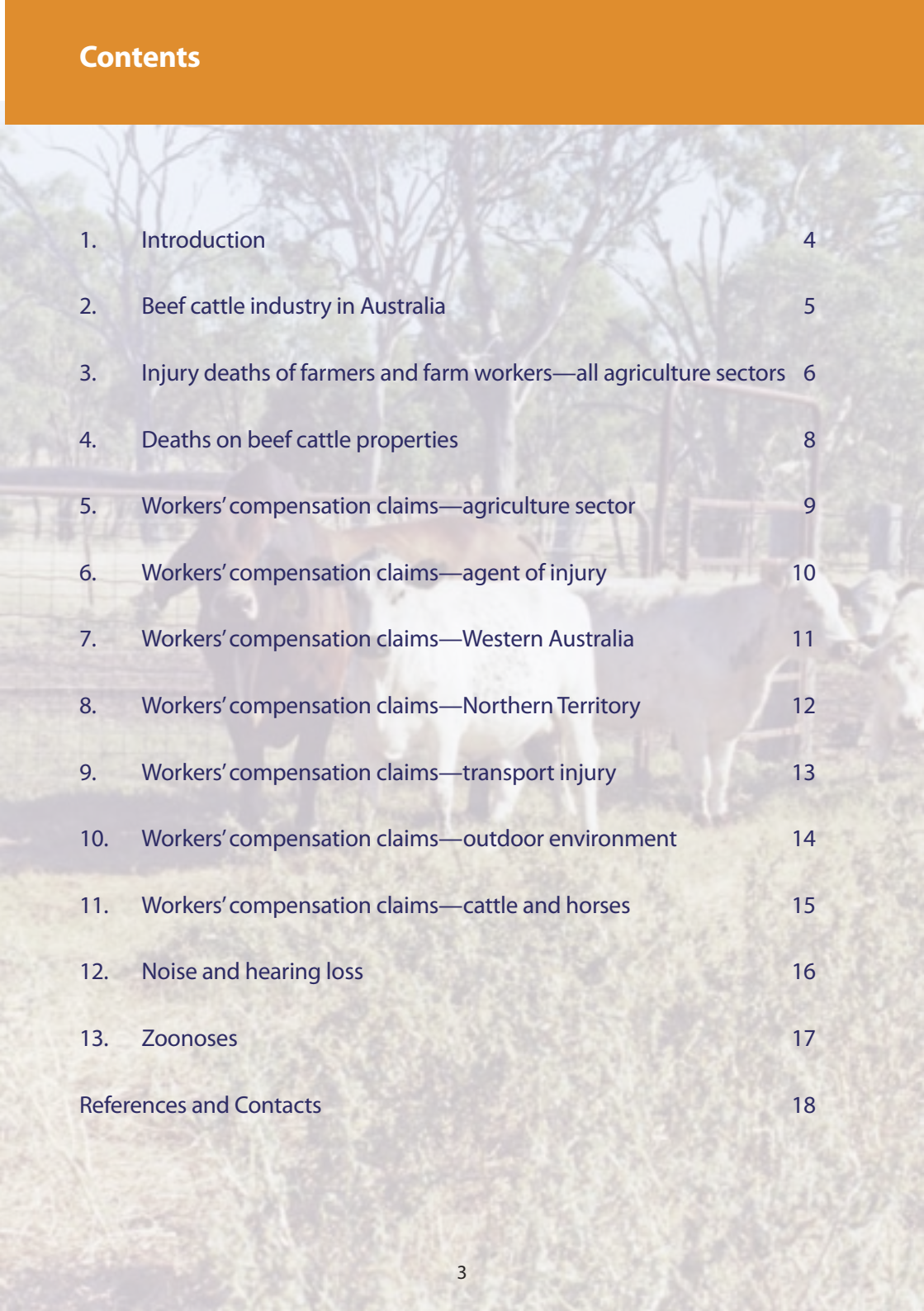
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Printed by Union Offset Printing, Canberra

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The background of the page is a faded, light-colored photograph of a rural farm scene. In the foreground, several cows are visible, some standing and some partially obscured. In the background, there are trees and a fence line. The overall tone is soft and natural.

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1. Introduction

Agriculture and horticulture enterprises produce commodities of more than \$30 billion value per annum on around 135 000 enterprises spread across all states of Australia. However, that production is associated with a high cost in terms of human injury. High rates of serious injury and deaths on Australian farms are of concern to agricultural industry bodies, farmers, workers and farm enterprises and federal and state governments.

Farmsafe Australia, the national association of agencies with a commitment to reducing injury risk on Australian farms, is working with the beef cattle industries to implement the *Health and Safety in the Australian Beef Cattle Industry An industry strategy 2004-2009*.

Strategic approaches to reducing farm injury risk are multifaceted and include:

- identifying elimination and substitution options
- improving design and engineering solutions
- administrative or work practice solutions, including education and skills development
- identification of requirements for personal protective clothing and equipment
- identification of incentives for adoption of improved systems
- ensuring compliance with regulatory requirements for supply of safe plant and equipment and safe operation in the farm workplace.

This document has been produced to provide guidance to those agencies and individuals who are working to reduce risk associated with beef cattle production in Australia. The publication is available electronically for use by educators and speakers in their efforts to raise awareness and promote beef cattle production safety, and for those whose role is the development of public and industry policy to improve safety.



2. Beef cattle industry in Australia

The beef cattle industry is an important industry in Australia, responsible for around \$5 billion in exports annually. In 2002 there were an estimated 24.7 million cattle and calves on around 58,000 properties across Australia (Tables 1 and 2). Establishments involved in beef cattle production comprise approximately 43% of all Australian agricultural enterprises.

Table 1 Establishments undertaking agricultural activity, Australia 30 June 2002

	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Plant nurseries	858	340	625	130	189	52	21	5	2,220
Cut flower, flower seed	263	224	185	87	140	38	9	-	945
Vegetable growing	831	1,011	1,379	513	517	545	9	-	4,805
Grape growing	1,220	2,243	167	2,448	628	119	4	4	6,833
Apple/ pear growing	176	307	37	108	154	137	-	1	919
Stone fruit growing	435	294	114	195	178	41	-	1	1,258
Kiwi fruit growing	24	4	3	-	4	-	-	-	34
Fruit growing n.e.c.	1,881	510	2,018	560	318	43	116	-	5,446
Grain growing	4,193	2,996	1,715	4,120	2,851	33	2	-	15,911
Grain-sheep/beef cattle	6,669	2,824	1,289	1,915	2,860	52	-	1	15,610
Sheep-beef cattle	3,726	2,288	867	795	453	269	-	26	8,424
Sheep farming	5,588	4,218	444	1,515	1,436	679	-	30	13,911
Beef cattle farming	10,722	7,698	11,285	1,234	1,893	1,048	211	19	34,110
Dairy cattle farming	1,615	6,696	1,292	590	358	580	3	1	11,135
Poultry farming (meat)	339	186	126	67	58	14	1	-	790
Poultry farming (eggs)	130	152	84	30	61	18	5	1	481
Pig farming	399	192	328	124	87	27	1	-	1,159
Horse farming	631	389	516	^57	129	53	-	3	1,777
Deer farming	28	38	**	21	**	11	-	-	125
Livestock nec.	311	133	194	14	66	6	2	-	725
Sugar cane growing	521	**	4,219	-	5	-	-	-	4,747
Cotton growing	321	-	375	-	-	-	-	-	697
Crop/plant nec.	214	536	616	130	108	190	11	1	1,806
Total	41,092	33,282	27,900	14,654	12,499	3,953	395	93	133,868

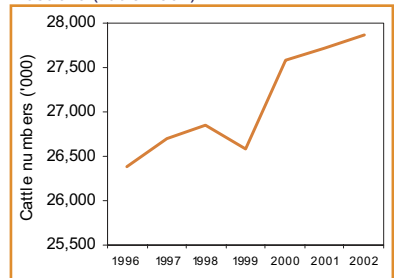
Source: Australian Bureau of Statistics, Agricultural Commodities, Australia, 2001-02 (7121.0).

Table 2 Cattle and calf numbers
Australia 2001

State	Number animals ('000)
New South Wales	6 012
Victoria	2 663
Queensland	11 289
South Australia	1 136
Western Australia	2 082
Tasmania	455
Northern Territory	1 722
ACT	12
Australia	24 519

Source: ABARE Australian Commodities Statistics 2002

Figure 1 Growth in beef cattle numbers, Australia (1996-2002)



Source: ABS (2002)

3. Injury deaths of farmers and farm workers—all agriculture sectors

Table 3 indicates the causes of non-intentional injury death of those persons whose occupation at time of death was farmer, farm manager or farm worker, for the years 1999 to 2002, and covers claims from all agricultural industries including beef cattle enterprises. The data does not include others of other occupational group who died on farms due to injury such as students, tradespersons, children or other visitors or contractors in the farm workplace and does include injury deaths associated with on-road transportation accidents.

One horse related death occurred each year, and one death was associated with contact with an animal - most likely cattle.

Table 3 Causes of injury deaths of those whose occupation was farm manager or agricultural worker, Australia 1999-2002 (ICD 10-AM)

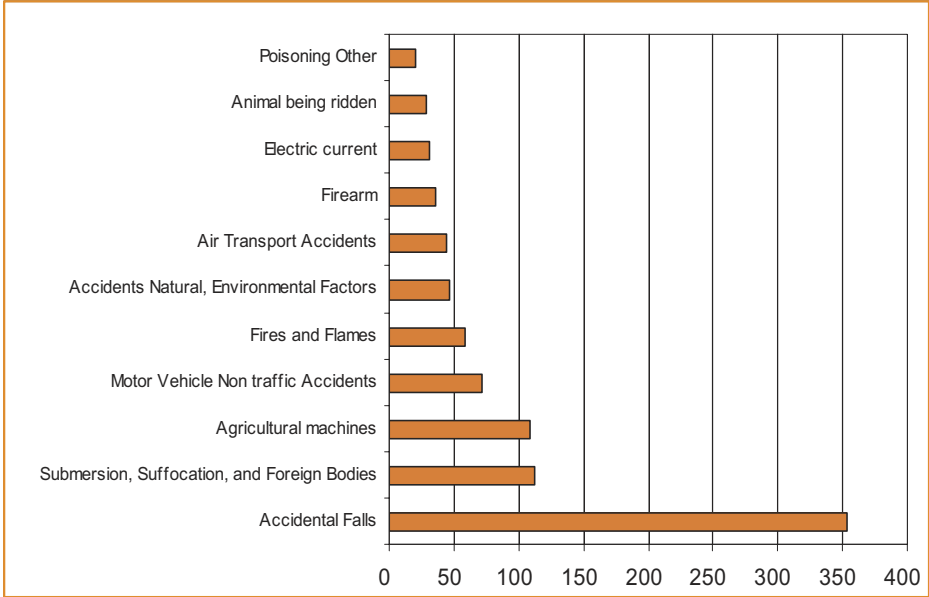
Code No	Descriptions	99	00	01	02	Z	%
V01-09	Pedestrian injured in transport accidents	8	14	15	7	44	5.3
V10-19	Pedal cyclist injured in transport accidents	0	0	1	0	1	0.1
V20-29	Motor cycle rider injured in transport accidents	9	4	10	10	33	4.0
V30-39	Occupant of three wheeled motor vehicle injured in transport accident	0	0	1	0	1	0.1
V40-49	Car occupant injured in transport accident	50	57	54	68	229	27.8
V50-59	Occupant of pick-up truck or van injured in transport accident	2	1	7	0	10	1.2
V60-69	Occupant of heavy transport vehicle injured in transport accident	1	1	1	2	5	0.6
V80-89	Other land transport accidents	27	12	19	19	77	9.3
V80	Animal ridden	1	1	2	1	5	0.6
V84	Special vehicle mainly used in agriculture (tractors)	10	7	10	6	33	4.0
V86	Special all-terrain vehicle(ATV)	5	2	5	8	20	2.4
V90-94	Water transport accidents	0	3	1	2	6	0.7
V95-97	Air and space transport accidents	2	3	5	1	11	1.3
W00-19	Falls	15	10	25	13	63	7.6
W20-49	Exposure to inanimate mechanical forces	17	19	8	17	61	7.4
W20	Struck by thrown, projected or falling object	6	5	4	5	20	2.4
W23	Caught, crushed, jammed, pinched in or between objects	1	1	1	1	4	0.5
W25	Contact with sharp glass	0	0	0	1	1	0.1
W29	Other powered hand tools & household machinery	0	0	0	1	1	0.1
W30	Contact with agricultural machinery	3	5	2	3	13	1.6
W31	Contact with other and unspecified machinery	0	1	1	1	3	0.4
W33-34	Firearms	6	6	0	4	16	1.9
W50-64	Exposure to animate mechanical forces	3	0	2	0	5	0.6
W65-74	Accidental drowning & submersion	5	4	11	5	25	3.0
W75-84	Other accidental threats to breathing	3	5	3	8	19	2.3
W85-99	Exposure to electric current, radiation & external ambient air temperature & pressure	1	2	3	2	8	1.0
X00-X09	Exposure to fire, smoke & flames	4	5	8	6	23	2.8
X10-X19	Contact with heat & hot substances	0	0	0	1	1	0.1
X20-29	Contact with venomous animals & plants	1	0	1	1	3	0.4
X30-39	Exposure to forces of nature	1	2	0	1	4	0.5
X40-49	Accidental poisoning	16	9	9	4	38	4.6
X50-57	Overexertion, travel & privation	0	1	0	0	1	0.1
X58-59	Accidental exposure to other & unspecified factors	28	38	26	42	134	16.2
Y85-89	Sequelae of external causes of morbidity & mortality	5	2	7	2	16	1.9
Total		199	192	217	211	818	100

Source: NFIDC ABS Deaths Database (HOIST NSW Health)

3. Injury deaths of farmers and farm workers—all agriculture sectors (continued)

Figure 1 demonstrates the relative contribution of causes of injury deaths of farmers and farm workers, excluding road traffic injury for the earlier period 1990-1998. This data excludes all road traffic injury.

Figure 2 Causes of non-intentional injury deaths* of farmers and farm workers, Australia 1990-1998 (n=912)



Source: NFIDC ABS Deaths Database (HOIST NSW Health)
*Excludes road traffic deaths, medical misadventure and poisoning by medicinals

Although the proportion of these deaths relating specifically to cattle producers or workers is not known, many of the injury risks are shared in common between specific groups in the agriculture sector, and hence the available data should be considered to be broadly relevant to the beef cattle industry.

Safety programs in the beef industry should take into consideration motor vehicle, machinery and accidental falls injury rates along with injury associated with cattle handling.

4. Deaths on beef cattle properties

Table 4 shows detail of non-intentional traumatic deaths on Australian farms from 1989-1992 where 70 deaths occurred on beef cattle only properties, as well as another 22 deaths on sheep/cattle properties and 12 deaths on beef cattle/cereal grains properties. This equates to 17.5 deaths per annum on beef cattle only farms to produce \$7 million gross value product (2001/02 value, ABS 2002), or 2.5 deaths per \$1 million gross value product, excluding deaths on mixed enterprise farms.

Deaths were associated with a range of agents, the main ones being *aircraft*, *tractor/mobile plant*, *vehicles*, *motorcycles* and *horses*. For 24 cases, activity at time of death was recorded (Table 5).

Table 4 Agent of fatal incident by work status on beef cattle properties, Australia 1989-1992

Agent	Working	Bystander	Total
Truck/utility/car/trailer	5	3	8
Motorcycle	7	2	9
Aircraft	16		16
Tractor/mobile plant	14	2	16
Fixed plant/pump	3		3
Firearm	3	1	4
Tank/dam/creek/river	2	3	5
Creek/river	5		5
Embankment	2		2
Powerlines	1		1
Horse	7	1	8
Cattle	2		2
Fire/smoke	2		2
Trees being felled	3		3
Other	4		4
Total	77	13	90

Source: Franklin et al (1989-1992)

Table 5 Activity undertaken at time of traumatic death on beef cattle properties, Australia 1989–1992

Activity	Agent of Injury	Number
Transport of stock	Truck or other vehicle	2
Mustering cattle	Horse/motor bike	8
Clearing/preparing land	Tractor/falling timber/fire	6
Plant maintenance	Bore pump	1
Moving irrigation pipes	Power lines	1
Transport workers	Vehicle/helicopter	3
Slaughter stock	Gun	1
Pulling stock from river	River	1
House fire	Fire	1
Total		24

Source: Franklin et al (1989-1992)

Although the above data is more than 10 years old, the number of on-farm deaths of farmers/farm workers has shown no downward trend between 1992 and 2001 suggesting that this information may be relevant. A major change since that period is the increased use of all-terrain vehicles, which at time of publication are associated with approximately 10 on-farm deaths per annum. Priorities for strategies to reduce deaths in the beef cattle industry should include aircraft, motor vehicle, motorcycle and tractor safety.

5. Workers' compensation claims—agriculture sector

Australia-wide there were 4,316 workers' compensation claims made in the year 2002 for injury in the agriculture sector. Of these, 1,820 (42%) were in the "Grain, sheep and beef cattle" industries. Separation of claims to the specific beef cattle industry is not available Australia-wide.

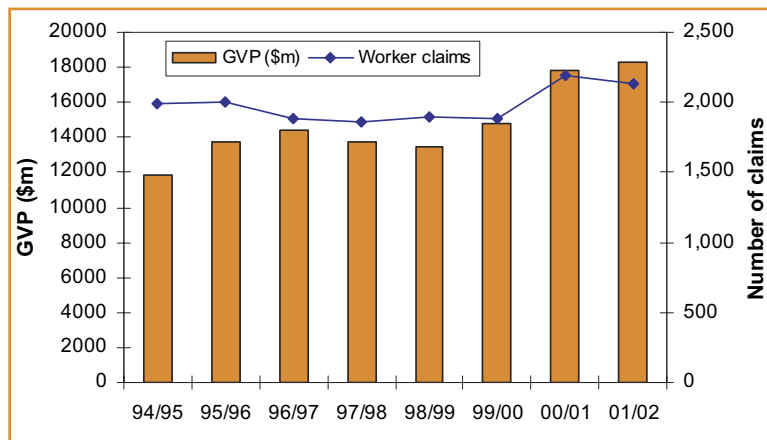
Table 6 Incidence of workers' compensation claims*, Australia 2002

Industry	Incidence per 1000 workers		
	Female	Male	Total
Horticulture & Fruit Growing	15.9	22.8	20.3
Grain, Sheep & Beef Cattle Farming	7.8	28.1	23.3
Dairy Cattle Farming	11.8	24.0	19.9
Poultry Farming	38.6	33.9	35.6
Other Livestock Farming	53.5	76.5	68.5
Other Crop Growing	35.1	34.1	34.3
All agriculture	15.7	27.8	24.2
All industries	11.6	22.5	17.4

Source: NOSI2 Databases, NOHSC website January 2005

*Duration of absence was greater than one week & travel claims excluded

Figure 3 Number of workers' compensation claims (all)* and total gross value of product# for grain/sheep/beef industry, Australia (1994/95-2001/02)



Source: (a) NOSI&2 Databases, NOHSC website (May 2005) (Note: *travel claims excluded, NOSI2 data provided as calendar year 2001 & 2002)

(b) ABS (2002) (Note: #Commodities produced by grain, sheep and beef industries, based on current prices)

The above data demonstrates that the beef cattle industry, along with all agriculture, should place injury prevention as a high priority.

6. Workers' compensation claims—agent of injury

Information is available describing the agent of injury and the associated mechanism of injury for workers' compensation claims for the period 1994/95 to 1999/00 for the combined grain/sheep and beef cattle industries across Australia.

Table 7 Agent of injury and associated mechanism of injury of workers' compensation claims* for the grains, sheep and beef cattle industries, Australia 1994/95-1999/00

Breakdown Agency	Falls, trips & slips	Hitting objects with body part	Hit by moving objects	Sound/pressure	Body stressing	Heat, radiation, electricity	Chemicals substances	Other & unspecified	Total
Machinery & fixed plant	39	261	312	12	372	19	#	12	1028
Mobile plant & transport	409	89	381	12	216	10	0	718	1835
Powered equipment, tools	#	65	115	#	47	29	#	7	274
Non-powered handtools, equipment	171	292	309	0	409	#	0	15	1197
Chemicals	0	#	#	0	19	12	41	7	85
Materials & substances	72	101	241	0	246	58	11	24	753
Environment agencies	784	171	190	41	152	6	0	282	1628
Animal, human & biological	809	89	1615	0	785	0	29	138	3554
Other agencies	70	44	62	14	407	8	0	553	1176
Total	2359	1114	3229	84	2653	143	83	1756	11529

Source: NOHSC NOSI Databases
than 5 cases

#Less

*Duration of absence was greater than one week & travel claims excluded

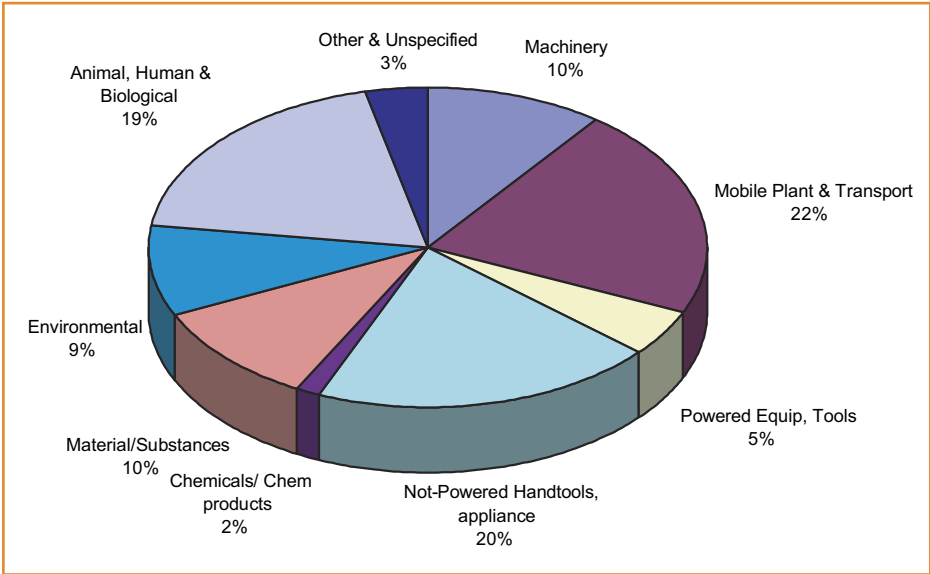
Priority should be given to establishing **safe animal handling systems** in the beef cattle industry, along with safe systems of work involving plant and equipment.



7. Workers' compensation claims—Western Australia

Figure 4 indicates the agents of injury associated with 1,352 workers' compensation claims related to beef cattle properties in Western Australia for the years 1993/04 to 1995/96. The cost of these injuries is indicated in Table 8.

Figure 4 Workers' compensation claims for beef cattle industry by agency of injury, WA 1993/94-1995/96 (n=1352)



Source: Franklin & Fragar (2002)

Table 8 Workers' compensation claims for beef cattle industry, by average cost and days lost per injury, WA 1993/94-1995/96

	Grain-sheep and grain-beef cattle	Sheep-beef cattle	Beef cattle	All agriculture
Number of claims	1035	139	178	4759
Average Cost	\$7,275	\$6,418	\$6,692	\$7,422
Average Days Lost	28.83	29.44	31.8	29.04

Source: Franklin & Fragar (2002)

The above data confirms the importance of both safe animal handling and machinery safety for the industry.

8. Workers’ compensation claims—Northern Territory

Table 8 shows agents of injury on beef cattle properties in the Northern Territory for the years 1992-1996, where horse and cattle related injury were predominant.

Table 8 Number of workers’ compensation claims, by agent of injury, on cattle properties in Northern Territory, 1992 – 1996

Agency	Number
Cattle/horse/other animal	356
Chemical substance	9
Environment	141
Heavy vehicle	30
Light vehicle	41
Machinery fixed plant	12
Material substances	44
Non power equipment	85
Powered equipment	39
Other unspecified	14
Total	741

Source: Work Health Authority NT

The above data demonstrates the need for improved cattle handling systems in the more extensive beef cattle sector, where approximately 70 workers’ compensation claims are submitted per year due to injuries associated with animal handling.



9. Workers' compensation claims—transport injury

Workers' compensation claims associated with *road transport* as agent of injury in the grains/sheep/beef cattle industries do not include claims where the injured person was traveling to work. Table 9 indicates that the main transport agents of injury for the period 1994/95-1999/00 were motorcycles (all types) and trucks.

Table 9 Breakdown of workers' compensation claims* associated with road transport injuries in the grains/sheep/beef cattle industries, by mechanism of injury, Australia 1994/95-1999/00

Breakdown Agency	Falls, trips & slips	Hitting objects with body part	Hit by moving objects	Body stressing	Chemicals & other substances	Other & unspecified	Total
Trucks/semi-trailers/ lorries	127	8	24	17	0	38	214
Cars/station-wagons/ vans/utes	41	7	26	13	0	67	156
Motorcycles/trailbikes	27	19	35	20	0	569	670
Pushbikes	0	#	#	0	0	9	11
Other road transport	10	#	#	#	0	#	22
Total	205	37	89	56	0	686	1075

Source: NOSI1 Database, NOHSC website January 2004

Less than 5 cases

*Duration of absence was greater than one week & excludes travel claims

In accidents involving motorcycles the body parts injured were overwhelmingly lower and upper limbs. Around 3.5 percent of motorcycle injury claims were associated with head injury (Table 10).

Table 10 Workers' compensation claims* associated with road transport injury, by body part, in the grains/sheep/beef cattle industries, Australia 1994/95-1999/00

Body part injured	Trucks/semi-trailers/ lorries	Cars/stationwagons/ vans/utes	Motorcycles/ trailbikes
Head	7	13	24
Neck	#	9	16
Trunk	47	36	95
Upper limbs	58	43	192
Lower limbs	74	37	284
Multiple locations	13	24	61
Systemic locations	0	0	0
Total	205	162	672

Source: NOSI1 Database, NOHSC website January 2004

Less than 5 cases

*Duration of absence was greater than one week & excludes travel claims

This data demonstrates the importance of **motorcycle safety**, including ATV safety, in the beef cattle industry.

10. Workers' compensation claims—outdoor environment

Table 11 indicates that the main outdoor environmental agents of injury associated with workers compensation claims in the grains/sheep/beef cattle industries are *holes in the ground, traffic areas, fencing materials* and *vegetation*.

Table 11 Breakdown of workers' compensation claims* associated with outdoor environment agency of injury in the grains/sheep/beef cattle industries, by mechanism of injury, Australia 1994/95-1999/00

Breakdown Agency	Falls, trips & slips	Hitting objects with a body part	Hit by moving objects	Body stressing	Heat, radiation electricity	Chemicals	Other & unspecified	Total
Weather & water	#	0	#	0	0	0	#	8
Sun	0	0	0	0	#	0	#	7
Holes in ground-outdoor	91	#	#	#	0	0	62	162
Wet oily outdoor traffic areas	62	0	#	#	0	0	14	79
Traffic area-hazardous-outdoor	94	#	#	0	0	0	67	164
Traffic area other outdoor	230	#	6	10	0	0	60	311
Buildings & other structures	36	9	#	6	0	0	#	57
Fencing	64	61	112	75	0	0	15	327
Vegetation	35	83	55	41	0	0	54	268
Other outdoor environmental agency	18	#	#	10	0	0	0	34
Total	632	162	193	146	#	0	278	1417

Source: NOSI1 Database, NOHSC website January 2004

#Less than 5 cases

*Duration of absence was greater than one week & travel claims excluded

Attention should be given to maintaining traffic and outdoor areas such as access roads and pathways, where practical, on properties.



11. Workers' compensation claims—cattle and horses

There were more than 150 claims each year for injuries where cattle were the agent of injury and more than 160 where horses were the agent of injury for the period 1994/95 to 1999/00 (Table 12). The overwhelming mechanism of cattle related injury was being hit by the animal. Injuries associated with horses were predominantly falls from the horse and being hit by the horse.

Table 12 Breakdown of workers' compensation claims* associated with cattle and horses in the grains/sheep/beef cattle industries, by mechanism of injury, Australia 1994/95-1999/00

Breakdown Agency	Falls/trips/slips	Hitting objects with body part	Being hit by moving objects	Body stress-ing	Biological factors	Other & unspecified	Total
Cows/steers/cattle/bulls	34	16	763	48	21	48	930
Horses (donkeys mules)	693	17	219	43	0	19	991

Source: NOSI1 Database, NOHSC website January 2004
*Duration of absence was greater than one week & travel claims excluded

Upper and lower limbs were the body parts most frequently injured for both cattle related injury and horse related injury.

Table 13 Workers' compensation claims* associated with cattle and horses, by body part, in the grains/sheep/beef cattle industries, Australia 1994/95-1999/00

Body part injured	Cows/steers/cattle/bulls	Horses/donkeys/mules
Head	50	70
Neck	11	18
Trunk	155	235
Upper limbs	300	315
Lower limbs	363	312
Multiple locations	26	37
Systemic locations	17	#
Non-physical locations	0	0
Unspecified locations	#	0
Total	927	989

Source: NOSI1 Database, NOHSC website January 2004
#Less than 5 cases
*Duration of absence was greater than one week & travel claims excluded

Head injury accounted for 5 percent of cattle related injury and 7 percent of horse related injury. As more than 90% of horse related deaths are associated with head injury, helmets for horse riders is a key risk control measure to be considered. Safe animal handling systems are also a priority.

12. Noise and hearing loss

Noise on farms has been well established as posing risk of noise induced hearing loss and tinnitus in farmers and farm workers. No measured noise levels for cattle handling activity are available. The following table indicates the noise levels with recommended exposure limits for a range of relevant activities on rural properties.

Table 14 Average noise levels and recommended exposure limits for common farm machinery and activities

Machinery/worker position during normal operating conditions	Noise level at operator's ear Average & Range (95% CI) LAeq dB(A)	Recommended exposure limits without hearing protection. NB: Noise exposure risk for each activity in the day is cumulative toward the overall noise exposure risk.**.
Air compressors	86 (77- 95)	7 hrs (15 mins - 8 hrs+)
All terrain vehicles (ATVs)	86 (84 - 87)	7 hrs (4 - 8 hrs)
Angle grinders	98 (96 - 100)	20 mins (15 - 30 mins)
Others in workshop	90 (87 - 93)	2 hrs (1 - 5 hrs)
Augers	93 (89-96)	1 hr (30 mins – 3 hrs)
Bench grinders	99 (94 - 104)	18 mins (5 mins - 1 hr)
Others in workshop	89 (82 -96)	3 hrs (40 mins - 8 hrs)
Bulldozers	99 (97 - 100)	18 mins (15 - 30 mins)
Chainsaws	106 (104 - 107)	3 mins (2 - 5 mins)
Others stacking wood	96 (93 - 99)	40 mins (15 - 50 mins)
Circular saws	99 (98 - 101)	18 mins (10 - 20 mins)
Others in workshop	89 (84 - 94)	3 hrs (1- 8 hrs)
Farm trucks	85 (83 - 88)	8 hrs (4 - 8 hrs)
Forklifts	84 (81-88)	8 hrs (4 - 8 hrs)
Firearms	Lpk 140+ dB	no exposure
Harvesters	83 (75 - 91)	8 hrs (2 - 8 hrs)
Irrigation pumps	100 (96 - 104)	15 mins (5 -30 mins)
Motorbikes - 2 wheel	81 (70 - 92)	8 hrs (1.5 - 8 hrs+)
Packing shed workers	80 (78 - 82)	8 hrs (8 hrs+)
Shearers	86 (84 - 87)	7 hrs (4 – 8 hrs)
Others in shed	80 (77-83)	8 hrs (8 hrs+)
Tractors with cabins	76 (75 - 78)	no limit
Av. <u>increase</u> with radio on	3 - 5 dB	8 hrs (8 hrs+)
Others in field	85 (80 - 90)	8 hrs (2 - 8 hrs+)
Tractors without cabins	92 (90 - 93)	1.5 (1 - 2) hrs
Others in field	82 (78 - 86)	8 hrs (6 - 8 hrs+)

Source: Farmsafe Australia, Noise injury prevention strategy (2002)

** For example: If exposed to a noisy activity for half the recommended daily limit {eg. Angle grinder for 10 min of a 20 min daily limit}, the remaining noise exposure in the day should not exceed half the recommended daily limit for another activity (eg. A limit of 4 hrs instead of 8hr on a tractor with a radio).

Cattle property managers need to ensure that all workers are protected from damaging noise levels.

13. Zoonoses

Q fever is a major zoonotic disease risk for the Australian cattle industry and is caused by a bacteria-like organism, *Coxiella burnetii*, which is highly virulent and infectious. The disease occurs worldwide, with the exception of New Zealand (Hilbink et al 1993), and is an occupational hazard for veterinarians, abattoir workers, and people working with animals. Cattle producers and workers in Australia have been shown to be at risk of exposure to Q fever (Fragar 2002). As Q fever is a disabling condition that may have long-term health impacts, the severity of the risk should generally be regarded as medium to high.

A Q fever vaccination program was undertaken by the Mid North Coast Division of General practice in 1995, focussing on workers at cattle saleyards. Table 15 indicates the number of farmers and graziers tested (self identified) and the results of antibody screening for previous infection. In the same study, 85% of veterinarians tested (n=7) showed evidence of previous Q fever infection (Fragar 2002).

Table 15 Farmers showing previous evidence of Q fever infection, by age, Mid Nth Coast, NSW 1995

Age Group	Farmers			Graziers		
	Cases tested	Cases with previous infection	% infected	Cases tested	Cases with previous infection	% infected
10-14	1	0	0	2	0	0
15-19	6	1	17	7	0	0
20-24	9	1	17	7	2	29
25-29	7	2	29	7	1	14
30-34	16	8	50	16	3	19
35-39	21	1	5	17	2	12
40-44	19	3	16	37	12	32
45-49	27	4	15	39	11	28
50-54	37	6	16	42	16	38
55-59	40	10	25	45	20	44
60-64	36	11	31	44	14	32
65-69	22	5	23	32	11	34
70-74	11	7	64	19	6	32
75+	5	0	0	9	2	22
Unknown	2	1	50	3	0	0
Total	259	60	23.7	326	100	30.7

Source: Fragar (2002)

The above data is further evidence that people working in the beef cattle industry are at risk of contacting Q fever. **Q fever vaccine** is available across Australia through state Health Departments.

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Occupational health and safety risk in the Australian Beef Cattle Industry

Chart-book of Summary Information 2005

Agriculture and horticulture enterprises produce commodities of more than \$30 billion value per annum on around 135 000 enterprises spread across all states of Australia. However, that production is associated with a high cost in terms of human injury.

High rates of serious injury and deaths on Australian farms are of concern to agricultural industry bodies, farmers, workers and farm enterprises and federal and state governments.

This document has been produced to provide guidance to those agencies and individuals who are working to reduce risk associated with beef cattle production in Australia. The publication is also available electronically for use by educators and speakers in their efforts to raise awareness and promote beef cattle production safety, and for those whose role is the development of public and industry policy to improve safety.

Downloads can be obtained from:

www.rirdc.gov.au



Australian Centre for Agricultural Health and Safety