

Hazard Identification – Lincoln University Farms – Dairy, arable, sheep & beef

June 15 2016

Hierarchy of controls

1. *Eliminate (E)*
2. *Isolate (I)*
3. *Minimise (M)*

Risk Matrix

N.B. For more details regarding use of this matrix / definitions refer to final page of this document

		Likelihood				
		Rare	Unlikely	Possible	Likely	Almost Certain
Consequence	Severe <i>Eg. Potential Fatality or Injury or illness with permanent disability</i>	MEDIUM	MEDIUM	HIGH	EXTREME	EXTREME
	Major <i>Eg. Potential Lost Time Injury (but non-permanent disability)</i>	LOW	MEDIUM	MEDIUM	HIGH	EXTREME
	Moderate <i>Eg. Potential Medical Treatment injury or illness (but no lost time)</i>	LOW	LOW	MEDIUM	MEDIUM	HIGH
	Minor <i>Eg. Potential First Aid injury</i>	LOW	LOW	LOW	MEDIUM	MEDIUM
	Minimal <i>Eg. Hazard or near miss requiring</i>	LOW	LOW	LOW	LOW	LOW

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	Major <i>Eg. Potential Lost Time Injury (but non-permanent disability)</i>	LOW	MEDIUM	MEDIUM	HIGH	EXTREME
	Moderate <i>Eg. Potential Medical Treatment injury or illness (but no lost time)</i>	LOW	LOW	MEDIUM	MEDIUM	HIGH
	Minor <i>Eg. Potential First Aid injury</i>	LOW	LOW	LOW	MEDIUM	MEDIUM
	Minimal <i>Eg. Hazard or near miss requiring reporting and follow up action</i>	LOW	LOW	LOW	LOW	LOW

Actions required based on Risk Assessment

Extreme	An "extreme" risk requires immediate assessment and senior staff consideration is required; a detailed mitigation plan must be developed, and consideration should be given to ceasing the activity unless the risk can be reduced to a level of high or less; regular monitoring and reported on to the relevant management/steering committee; Target resolution should be within 1 month.
High	A "high" risk may also require immediate assessment and senior staff consideration; a mitigation plan must be developed; regular monitoring and reported on to the relevant management/steering committee. Target resolution (ideally reduction to medium or low level of risk) should be within 3 months.
Medium	A mitigation plan must be developed; existing controls need to be reviewed. Target resolution (ideally reduction to low level of risk) should be within 1 year.
Low	Risk is tolerable; manage by well established, routine processes/procedures and be mindful of changes to nature of risks.

Hazard	Potential Harm	Significant hazard	Risk rating	E	I	M	Action Proposed	Review Date	Frequency of monitoring
Dairy farms	Steps Required 1. Identify all hazards, then identify all significant hazards 2. Eliminate the Hazard, If not practical then 3. Isolate the Hazard, if not practical then 4. Minimise the Risk and protect the staff and visitors 5. Assign risk rating (RR)								
	Milking Shed								
Dairy Chemicals Bulk Supply	Chemical exposure , burns	Yes	Medium	No	Yes	Yes	All Bulk Chemicals stored and locked in agaric chemical shed. SDS available I office area. Agric chemical approved handler training where appropriate	1 August 2016	Daily checks
Dairy Chemicals Daily Use Supply	Chemical exposure , burns	Yes	Medium	No	Yes	Yes	Only collect what is needed at the time, don't leave dairy chemicals around the dairy SDS available I office area. Agric chemical approved handler training where appropriate	1 August 2016	Daily checks and before use

Hazard	Potential Harm	Significant hazard	Risk rating	E	I	M	Action Proposed	Review Date	Frequency of monitoring
Milk Vat	Confined Space Working at heights	Yes	Medium	No	Yes	Yes	Confined space training entry (e.g. entering the vat) and *Working at heights (e.g. climbing the vat). Follow Approved Code of Practise. *Site safe certification or use appropriate contractors	1 August 2016	Daily
Wash Down Hose by Milk Vat	Trips, falls for tanker driver access.	Yes	Medium	Yes	Yes	Yes	*Coil hose up on empty vat pad – as directed by Fonterra. *All contractors inducted to site and follow procedure	1 August 2016	Daily
Animal Health Drugs and Needles	Needle stick or accidental ingestion	Yes	Medium	No	Yes	Yes	*All Supplies to be locked in Vet cupboard or appropriate refrigerator *SDS to be available & emergency management information	1 August 2016	Daily
Power Supplies in Cowshed	Electrocution	Yes	Medium	No	Yes	No	*Beware with water - External use of power requires shock protection system	1 August 2016	Daily
Hot Water Supplies	Burns	Yes	Medium	No	Yes	Yes	*No Unsupervised visitors allowed access to Dairy Shed *Visitor control procedure	1 August 2016	Weekly
Milk Chiller Unit	Burns	Yes	Low	No	Yes	No	*Beware Hot surfaces, Guarded fans and Motors (Guarded)	1 August 2016	Daily

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Wash Down Hoses in Dairy Shed	Slips, trips, falls	Yes	Low		Yes	No	*Leave stored correctly, and away from Steps & Pit Walkway	1 August 2016	Daily
Electric Backing Gates	Crush Injury or potential amputation of digits	Yes	Medium		Yes	Yes	*Guard in place *Hi visibly painting *Training in use *Audible alarm when in use	1 August 2016	Daily
Underground Cable - Dairy Shed	Electrocution	Yes	High	No	Yes	No	*Be aware of where the power cables are buried – check map. *Restricted access to areas with cables. *Only training staff to work on cables	1 August 2016	Yearly
Underground Cable - Irrigation Bores	Electrocution	Yes	High	No	Yes	Yes	*Be aware of where the power cables are buried – check map. *Restricted access to areas with cables. *Only training staff to undertake work on cables	1 August 2016	Yearly
Overhead Wires	Electrocution	Yes	High	No	Yes	No	*Be aware of where the power cables are located. Restricted access to areas with overhead wires. *Pre check with high access machinery or protruding fixtures	1 August 2016	Yearly

Hazard	Potential Harm	Significant hazard	Risk rating	E	I	M	Action Proposed	Review Date	Frequency of monitoring
Extension Leads & Power Tools	Electrocution	Yes	Low	No	Yes	No	*At all times use an Isolating device for protection. *Only trained operators to use Equipment. *Equipment to be tagged as per LULPP	1 August 2016	Yearly
Centre Pivot Irrigators	Electrocution	Yes	Low	No	Yes		*Training in use *Identify and note location of cables (and underground) *Isolation procedure where required if maintenance be undertaken	1 August 2016	Yearly
Centre Pivot Irrigators	Electrocution	Yes	High	No	Yes	No	*Power supply cables buried to both Centre Pivot Irrigators	1 August 2016	Yearly
Centre pivot irrigators – maintenance program	Stored energy, inadvertent pressure release	Yes	High	No	No	Yes	*Pressure release valves on pipes *Trained maintenance contractors *Use of isolation procedure	1 August 2016	Pre maintenance checks
Machinery, Equipment & Tools									
Tractor PTO and drives shafts	Entanglement/crushing/ripping	Yes	Medium	No	Yes	Yes	Always use Guards on PTO drives and shafts - report any faulty parts immediately. Only trained operators to use.	1 August 2016	As Used – pre use checks

Hazard	Potential Harm	Significant hazard	Risk rating	E	I	M	Action Proposed	Review Date	Frequency of monitoring
Workshop Tools & Equipment		Yes	Low	No	Yes	Yes	<p>*All users to be skilled to a competent level.</p> <p>*Restricted access to this area</p> <p>*Wear any PPE necessary for noise, impact injury or crushing</p>	1 August 2016	As Used – pre use checks
All Machinery, Equipment & Tools	Cuts	Yes	Low	No	Yes	Yes	<p>*All users to be skilled to a competent level.</p> <p>*Pay particular attention to handles of tools and check there are no sharp edges.</p> <p>*Wear any PPE necessary for impact, noise projectiles</p>	1 August 2016	As Used – pre use checks
Hydraulic Equipment	crushing	Yes	Low	No	Yes	No	<p>*Always avoid being under, or passing under hydraulic equipment</p> <p>*Restricted access to this area</p> <p>*Only trained operators to use this equipment</p>	1 August 2016	Daily

Hazard	Potential Harm	Significant hazard	Risk rating	E	I	M	Action Proposed	Review Date	Frequency of monitoring
Tractor Use	Impact, crushing, rollover	Yes	High	No	Yes	Yes	<p>*Trained/experienced operators only</p> <p>*When travelling on roads keep within speed limits as per road conditions.</p> <p>*Comply with LTSA Regulations</p> <p>*PPE – noise & safety footwear</p>	1 August 2016	Daily
Motorbikes Use	Impact and collision	Yes	High	No	Yes	Yes	<p>*Experienced Users Only at all times, avoid excessive speeds & adhere to speed limits</p> <p>*Maintain mechanically to high standard. Complete checklist before daily operation.</p> <p>*Helmets, boots to be worn at all times.</p> <p>*Riders must have license when using on road and follow road rules</p> <p>*Ensure riding is familiar with different terrain (e.g. hill work and traction issues)</p>	1 August 2016	Daily

Hazard	Potential Harm	Significant hazard	Risk rating	E	I	M	Action Proposed	Review Date	Frequency of monitoring
<p>Quad bikes</p> <p><i>Refer to Lincoln University Policy on Quads use</i></p>	Impact, crushing, rollover	Yes	High	No	No	Yes	<p>Motorbike / car licence needed to operate. Reffer to LULPP (policy on quad use)</p> <p>Trained & Assessed as competent. Induct & Assess.</p> <p>No excessive speeds.</p> <p>Maintain mechanically to high standard. Complete checklist before daily operation.</p> <p>PPE - Helmets, boots to be worn at all times</p> <p>No pillions unless certified for this.</p> <p>No passenger carrying in trailers</p> <p>No under sixteens to operate.</p>	1 August 2016	<p>At induction</p> <p>At Induction</p> <p>Assess Terrain</p> <p>Daily</p> <p>Daily</p> <p>Daily</p> <p>Daily</p>
Farm Paddocks and races									
Wheel ruts, recessed trench lines	Impact and collision	Yes	Medium	Yes	No	Yes	<p>Where possible remediate trenches/uneven surface.</p> <p>Be aware of trench hazards, refer to hazard map of holes and trenches</p>	1 August 2016	Monthly

Hazard	Potential Harm	Significant hazard	Risk rating	E	I	M	Action Proposed	Review Date	Frequency of monitoring
Effluent collection and pumping chamber	Drowning, falls, slips	Yes	Medium	No	Yes	Yes	Supervise all visitors at all times - always close gates to this area and padlock - Fences to be secure Restricted access to this area	1 August 2016	Monthly
Drains	Drowning, falls, slips	Yes	Medium	No	No		Be aware of drains and avoid them with vehicles - Fence drains off from livestock access Restricted access to this area	1 August 2016	Monthly
All Areas of Farm	Impact and collision	Yes	High	No	No		Avoid any excessive speed with any vehicles	1 August 2016	Daily
Irrigation System									
Centre Pivots in Operation, moving wheels & overhanging sprinklers.	Impact and collision	Yes	High	No	No	Yes	*Avoid working on or near Centre Pivots while operating *Take care when passing under pivots, especially with the tractor and equipment	1 August 2016	Daily

Hazard	Potential Harm	Significant hazard	Risk rating	E	I	M	Action Proposed	Review Date	Frequency of monitoring
Long line laterals and Hydrants <i>Refer to Lincoln University Policy on Quads use</i>	Impact and collision	Yes	High	No	No		Take care when riding bikes around these areas, beware of hitting these objects	1 August 2016	Daily
Rotary Pivot <i>Refer to Lincoln University Policy on Quads use</i>	Head Injury	Yes	High	No	No	Yes	*Take care when moving & operating the pivot not to hit head. *Do not try and manoeuvre while still in operation. Isolate system	1 August 2016	When In operation
K-Line system <i>Refer to Lincoln University Policy on Quads use</i>	Impact and collision	Yes	High	No	No		Take care when riding bikes around these areas, beware of hitting these objects	1 August 2016	Daily
Agriculture									
Weed Sprays	Exposure, inhalation- ingestion	Yes	Medium	No	Yes	Yes	Follow all Correct Operating procedures. Wear gloves, glasses and respirator. Lock away after use All user of agric chemicals to have approved handler training or have approved handler available DSD available on site	1 August 2016	Daily

Hazard	Potential Harm	Significant hazard	Risk rating	E	I	M	Action Proposed	Review Date	Frequency of monitoring
Weed Sprays		Yes	Medium	No	Yes		*Keep all Bulk Chemicals locked away. *All user of agric chemicals to have approved handler training or have approved handler available *SDS available on site	1 August 2016	Monthly
Animal Drench & Pour On Medication	Exposure, inhalation- ingestion	Yes	Medium	No	Yes		*Follow all Correct Operating procedures. Lock away after use *All user of agric chemicals to have approved handler training or have approved handler available *SDS available on site	1 August 2016	Monthly
Other hazardous substances used in research (e.g sulphuric acid)	Exposure, inhalation- ingestion	Yes	Medium	No	Yes	Yes	Keep in secured approved cabinet. *All user of hazardous substances to have approved handler training or have approved handler available *SDS available on site *SMOPU available on site	1 August 2016	As Used

Hazard	Potential Harm	Significant hazard	Risk rating	E	I	M	Action Proposed	Review Date	Frequency of monitoring
Livestock Handling									
Stock in Yards and Dairy Shed	Crushing, impact	Yes	Medium	No	No		*Handle with care and respect for danger involved - beware of crushing and plan an escape route *Comply with Worksafe guidelines on stock handling. *Training in animal handling – experienced staff only Restrict access to stock	1 August 2016	Daily
Movement of Livestock	Crushing, impact	Yes	Medium	No	NO		*Handle with care and respect for danger involved *Comply with Worksafe guidelines on stock handling. *Training in animal handling – experienced staff only Restrict access to stock	1 August 2016	Daily

Hazard	Potential Harm	Significant hazard	Risk rating	E	I	M	Action Proposed	Review Date	Frequency of monitoring
Movement of Livestock	Crushing, impact	Yes	Medium	No	No	Yes	*Beware of unpredictable stock - wild animals and protective newly calved cows Training in animal handling – experienced staff only Restrict access to stock	1 August 2016	Daily
Stock on Public roads	Crushing, impact	Yes	High	No	Yes	Yes	Always shut all boundary and main race gates at night - paddock where appropriate Use traffic safety plan and communicate	1 August 2016	Daily

Hazard	Potential Harm	Significant hazard	Risk rating	E	I	M	Action Proposed	Review Date	Frequency of monitoring
Visitors Groups									
Visitor Groups <i>See also LU Control of Contractors Policy</i>	Miscellaneous – all types	No	High	No	Yes	Yes	*Notify Manager. Visitors to be accompanied by farm staff at all times and to sign in and out on board. *Hazard Report must be read if working on farm – *Relevant hazards identified for short visits *No use of equipment unless qualified, otherwise supervised use of any Equipment or Machinery	1 August 2016	Daily
Visitor Groups - children	Miscellaneous – all types	Yes	High	No	Yes	Yes	All Children to be supervised by an adult familiar with the hazard report.	1 August 2016	Daily
Mobile Machinery & miscellaneous Hazards									
Post driver	Crushing Hearing damage Entanglement	Yes	Medium	No	Yes	Yes	*Only used by Research Farm staff when used on site. Always use PPE – hearing, boots protection. *No loose clothing during operation	1 August 2016	6 monthly

Hazard	Potential Harm	Significant hazard	Risk rating	E	I	M	Action Proposed	Review Date	Frequency of monitoring
Front end Loader and attachments	Body damage	No	High	Yes	Yes	Yes	*When not in use, always in down position. *Restrict onlookers to safe distance. *Trained experienced operators only *Only licensed drivers to use on road	1 August 2016	6 monthly
Mower	Body damage	Yes	Medium	No	Yes	Yes	*Education. Turn off before dismounting tractor. *Onlookers at safe distance. *Ensure guarding in place and secure *Signage indicating use *Hearing protection & safety boots	1 August 2016	6 monthly
Travelling Irrigators – lateral and centre pivot	Head and body damage	Yes	Medium	Yes	Yes	Yes	*No maintenance while in operation.	1 August 2016	6
Grain silos and sweep augers	Leg – foot	No	Medium	No	Yes	Yes	*Safety footwear *No loose clothing *At least two people on job – working in isolation procedure.	1 August 2016	Annual

Hazard	Potential Harm	Significant hazard	Risk rating	E	I	M	Action Proposed	Review Date	Frequency of monitoring
Agricultural chemicals	Poisoning, chronic & acute exposure	Yes	Medium	No	Yes	Yes	*Keys to secure room held only by Manager *Follow SDS – ensure available *Approved handler training required	1 August 2016	6 monthly
Hazardous chemicals Chemical spills	Workplace exposure –Direct contact, ingestion or inhalation of chemicals Chemical burns. Acute exposure	Yes	Medium	No	Yes	Yes	*Spill kits available *Personal protective equipment used, as per SDS. *First aid kits available *Training in decanting	1 August 2016	6 Monthly
Effluent pond	Drowning – risk to children	Yes	High	No	Yes	No	*Empty pond regular intervals *Child proof fence around effluent pond(s) *Restricted access area	1 August 2016	
On farm motor vehicles	Body damage	Yes	Low	No	No	Yes	Sign at road entrance limiting all vehicles to 20 km per hour.	1 August 2016	

Hazard	Potential Harm	Significant hazard	Risk rating	E	I	M	Action Proposed	Review Date	Frequency of monitoring
Work Shop Electric plant and connections	Electrocution	Yes	Low	No	Yes	Yes	*All connections and plant to be tagged. *Restricted access area	1 August 2016	Annual
Animal Handling Facilities	Body Damage	Yes	Medium	No	Yes	YES	*Two people present when performing animal handling procedures *Restricted access area	1 August 2016	6 Monthly
Chain saws	Serious harm, cuts body damage	Yes	High	No	Yes	Yes	*Trained operators only *PPE-full set hearing PPE, chaps, goggles, helmets, boots	1 August 2016	Before operation
Electric Fences	Electrocution (low amps)	Yes	Low	No	Yes	Yes	*Orange signs to be attached and especially on laneway sites *Use isolating device	1 August 2016	Annual

Farm Laboratory

Please see separate Laboratory Hazard Register for any items not covered here.