Cal Poly Dairy:
Injury, Illness and Prevention Program Safety Manual

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Abstract

The purpose of this project was to create a safety manual that was tailored specifically for the California Polytechnic State University, San Luis Obispo (Cal Poly) Dairy. This safety manual was created due to the fact that an out of date safety manual was the only frame of reference for student employees and management to follow. By generating a new safety manual that includes proper up to date information and safety procedures, it is anticipated that all student employees and management at the Cal Poly Dairy will be able to sustain a higher level of safety while employed there.
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Chapter One
Introduction

California Polytechnic State University (Cal Poly) Dairy is an essential center where students gain hands on learning experience of practical knowledge and the logistics of running a dairy in order to really put the "Learn by Doing" motto to practice. In addition, the university dairy serves as a central location for dairy industry outreach to the general public. Students of all majors at Cal Poly are given the opportunity to work at the university dairy as not only a way to make an income to help with college expenses, but also as a chance to gain priceless knowledge and experience working and operating a completely student run dairy operation.

Visitors to the Cal Poly Campus or even San Luis Obispo, for that matter, make sure to stop by the dairy to see every aspect in motion. Visiting with the calves, viewing the milking process above from the observation deck and educating their children as well as themselves about this vital California industry, makes a great day adventure for all. Most private dairies are not open to the public; however, the Cal Poly Dairy is open to the public and offers visitors the unique opportunity the chance to just peruse around. Therefore without university dairies such as Cal Poly, the public would not have the opportunity to personally see how a dairy functions just as a real commercial dairy would.

Conversely, having inexperienced people from all walks of life working or visiting the dairy can cause some issues to arise. Dairies consist of aspects such as large animals, chemicals, and machinery, which leads to the concern of many
safety hazards that could harm not only employees but also visitors. It is well known that working conditions are full of safety hazards when on a dairy farm. Simultaneous actions or procedures occurring, different people, chemicals, large machinery and animals in close contact are all aspects from a dairy that are just asking for an incidence to occur. This is why safety procedures or protocols set by managers must and should be followed. If the right safety procedures are not properly followed, general daily dairy tasks can be very hazardous to the health of the worker, animals and other workers around them. Chemicals can be splashed or spilled, creating an immediate health risk. Animals that seem calm and predictable can in a split second become unpredictable and dangerous. Machinery contains an enormous set of gears and moving parts that can squish, crush, grab or even ultimately cause a fatal injury. Each of these instances could happen to anyone if safety procedures are not properly followed.

Injuries not only result in missed work and/or school for doctor’s appointments and recovery time, but it also lowers the productivity and profitability of the dairy. Finding a relief employee in the case of an injury can be a difficult and stressful task forced upon a manager. There are many tasks on farms that often take years to perfect, and finding a good replacement is often impossible especially with unexpected or unplanned accidents occurring. For example, if a milker is injured and a replacement is desperately needed, a manager may hire a subpar replacement, which may result in a temporary fix however could cause long-term issues. In this example a long-term issue could be improper milking procedures, which may lead to higher incidence of disease.
These inconsistencies may result in many hidden costs such as milking mastitic cows, slower milking, as well as many other potential costs just because lack of experience or training of the employees. The time to train these new relief employees takes more time from managers that are often busy with many other tasks and therefore may not even be able to put in the full effort. Employee efficiency will often decrease when a workday injury occurs as many employees may stop working to help the injured person and this will interrupt the workplace (Koot, 2012). Due to the numerous negative implications with employees becoming injured, the best solution is preventing these injuries from occurring. To accomplish this it is essential that companies, especially a dangerous place like a dairy, need to have their safety manual be up to date.

Statement of the Problem

Being aware of all of the many possible hazards and probable injuries that accompany working with large animals, machinery, and potentially hazardous chemicals in a production setting is one thing. Yet more importantly, it is essential that dairy employees receive proper training and have an updated and workable safety manual to be able to refer to. This is where Cal Poly San Luis Obispo had an issue. Rich Silacci, Dairy Farm Manager, approached the authors regarding this issue and asked for their assistance.

The current safety manual at the Cal Poly Dairy was heavily outdated. Being a university dairy, a huge employee turnover rate occurs compared to a commercial dairy or career, which lasts much more than 4 years. Due to the fact
that new student workers are always coming and going from the dairy, student workers are trained in their respective and specific positions. Therefore, the safety procedures specific to each job needs to be taught by the manager or senior employee in that same position.

Since there tends to be a common trend of human error and inconsistency between trainers, the training that each new employee receives may be varied therefore causing the important safety precautions to accidentally be left out. This leaves employees at increased risk of injury and the Cal Poly Corporation at risk of increased worker’s compensation costs and potential law suits (Woodman, 2011). Without an updated safety manual, employees do not have any idea what are the proper protocols leaving them at a higher risk for injury.

**Importance of the Project**

Safety is huge for not only the workers and the wellbeing of the animals on the Cal Poly Dairy, but also the safety culture of the university campus as well. Cal Poly San Luis Obispo's motto is "Learn by Doing" and they hold true. Although this motto is one to love fulfilling, it is the upmost importance to do so in a safe manner.

When an injury, minor or fatal, occurs everyone is affected. And, if workers are not working in a safe manner, injuries will occur at higher rates. Approximately 90% of all incidents are caused by unsafe behavior (Passarella, 2014). Production rates will be lost and injuries not only create health care costs for the student workers but also workers’ compensation costs for the employer. Therefore, every action should be taken to ensure that injuries do not even occur in the first place.
A very easy preventative action to do just this would be to update the current Cal Poly Dairy safety manual.

With more and more students getting hired to work at the dairy each new quarter, training of new employees is up to the senior employee or manager of each specific position. As already stated, new employees are not all trained by one person or even at the same time. Therefore, there is pertinent safety information that one individual may receive yet the other one may not which could later lead to possible injuries just from lack of proper information. Not only is this a risk to their safety but also when it comes time for them to train a new employee, the cycle of misinformation continues causing more problems in the future.

Through the process of updating the safety manual, the authors will not only make it easier for Silacci to keep it up to date with OSHA standards but will also help make it available for all student employees to reference safety procedures, aid in reporting safety hazards, safety violations and injuries right when they occur at a moment's notice. If it is not documented or recorded, it did not happen (Passarella, 2014).

Updating the safety manual with the current procedures will also outline what action should be taken to reprimand students for not following safety procedures and therefore endangering their health and the health and safety of the animals or others around them. The Cal Poly Dairy safety manual should not only be a preventative measure when it comes to injuries but also a workable reference tool to record and find solutions when an injury or accident arises, if that is the case.
Purpose of the Project

The purpose of this project is to update the current OSHA safety manual for the Cal Poly Dairy for all occupations at the Cal Poly Dairy. The updated safety manual will not only be up to date with OSHA standards but aid in the reporting of injuries and awareness of safety violations to prevent the injuries that may occur in the first place. The safety-training program will provide information on pertinent safety features, proper use of personal protective equipment, how to handle chemicals, proper milking procedures, proper cow handling technique, and proper machinery use just to name a few.

Objectives of the Project

The objectives of this project are:

- To research and understand the safety hazards associated with the dairy environment
- To learn how to develop a OSHA safety manual
- To make an easy to use, short yet concise, workable safety manual that will not just be looked at once and then placed on the shelf to collect dust (like the previous one)
Definitions of Important Terms

- **Mastitic**: referring to mastitis which is the inflammation of mammary tissue
- **OSHA**: Occupational Safety and Health Administration. An organization who enforces safety with workers along with health regulations or issues penalties and fines to any who violate laws
- **Milking**: the act of removing milk from the cow's mammary glands, usually by use of machine
- **Skid Steer Loader**: a small highly maneuverable farm vehicle with a large bucket or fork at the front end
- **Power Take-Offs (PTOs)**: an accessory unit or apparatus attached to an engine-powered machine and powered by the engine
- **Silo**: a structure, typically cylindrical, in which fodder or forage is kept
- **Personal Protective Equipment**: specialized clothing or equipment worn by employees for protection against health and safety hazards. It is designed to protect many parts of the body, i.e., eyes, head, face, hands, feet, and ears.
- **Hazard**: a danger or risk
- **Zoonotic**: a disease communicable from animals to humans under natural conditions

Summary

The California dairy industry is a vital part of the California economy. With less than two percent of the population involved with farming and ranching, many
consumers may not recognize the knowledge and effort it takes to provide an easily accessible healthy and wholesome dairy product. In order to share knowledge and experience within the dairy industry to students and the community, the Cal Poly University Dairy was created.

The Cal Poly Dairy is an essential facility not only for students, but also the general public as well to learn and experience the California dairy industry. Cal Poly’s “Learn By Doing” philosophy is a rare opportunity for students to learn and work on a fully functional dairy operation but also exposes them to the real world hazards of the industry.

Any Cal Poly student has the opportunity to work at the dairy no matter their major or past dairy experience. Because of this there are many student workers who are not used to working around large animals and heavy machinery. With this brings liability and consequences to not only the dairy but also the Cal Poly Campus as a whole. To ensure the safety of the student workers and uniformity of safety training Silacci approached the authors with the task of updating the Cal Poly Dairy Safety Manual.
The Dangers of Dairy Farming

Farming is commonly perceived as an industry of hard work and good health; however farming presents numerous risks and hazards in every field of employment in the industry. Every day farm workers are exposed to extreme risks (Mitloehner, 2008). Agriculture is counted among the most dangerous industries and it accounts for a large percentage of fatalities and injuries. According to national estimates, the non-fatal injury rate for the agriculture, forestry, fishing and hunting sector was 5.1 per 100 workers in 2009 (Bureau Of Labor Statistics, 2010). Over all occupations, farmers and ranchers have the fourth highest fatality rate 41.4 per 100,000, only trailing fishers, logging workers, and aircraft pilots and flight engineers (National Safety Council).

Dairy farming is one of the most hazardous sectors of the agriculture industry as it presents both the hazards of farming as well as the risks of injury when working with dairy cattle (Mitloehner, 2008). Researchers have identified dairy farming as having the second highest prevalence of injuries among all US agriculture groups [Boyle, et al. 1997, Crawford, et al. 1998, NIOSH 1993]. Researchers at the High Plains and Intermountain Center for Agricultural Health and Safety (HICAHS) completed two analyses of workers’ compensation data among dairy workers. Results indicated dairy workers had an injury claim rate of 8.6 claims per 200,000 work hours, higher than the national injury rate (6.2 per 200,000 hours) as reported by the Bureau of Labor Statistics (BLS) for 2003.
According to David Douphrate with the High Plains and Intermountain Center for Agriculture Health and Safety at Colorado State University in Fort Collins, Colo., the two main causes of workers’ injuries (fatal and non-fatal) are incidents with machinery and animals. Machine related accidents include tractor rollovers, being run over by tractors and being entangled in rotating shafts. Animal related injuries include kicks, bites, and workers being pinned between animals and fixed objects. Other causes of injuries include chemical hazards, confined, manure lagoons, use of power tools, and improper use or lack of personal protective equipment (Mitloehner, 2008). A case study was conducted to identify the most common injuries on dairy farms in five states: Minnesota, Wisconsin, North Dakota, South Dakota, and Nebraska. Some of the operation activities observed were, milking, feeding, foot trimming, treatments, among others. It was found that milking has the highest risk for injury. In the case study, 38 people were injured milking, 21 injured feeding, 6 injured by dehorning, 1 injured by calving assistance, and 2 injured during cattle treatment (Boyle D, 1997).

OSHA states that the 12 most hazardous dairy activities include:

1) Manure storage facilities and collection structures
2) Dairy bull and cow behavior, worker positioning
3) Electrical systems
4) Skid-steer loader operation
5) Tractor operation
6) Guarding of Power Take-Offs (PTOs)
7) Guarding of other power transmission and functional components
8) Hazardous energy control while performing servicing and maintenance on equipment
9) Hazard communication
10) Confined spaces
11) Horizontal bunker silos
12) Noise

The largest percentage of injury claims made by dairy employees involved the upper extremity (33.5%), and caused by the cow (28.9%) during animal handling activities. The highest percentage (27%) of injuries was to the wrist, hand, and fingers. Nearly 50% of livestock-handling injuries took place in the parlor while performing a milking task. (Douphrate D, 2006).

A high percentage (63%) of the fatal work injuries occur among Hispanic or Latino workers, 60% of which were born outside the United States. Of the foreign-born workers who suffered fatal injuries in the US in 2010, 38% were born in Mexico, 21% in Asia, 12% in Europe, and another 19% from other countries in Central America. The average age of livestock-handling injury claimants among dairy workers was 32.2 years of age (range 18-67 years), and the average employment duration at the time of injury claim was 2.4 years (range 0 to 20.6 years). The majority of livestock-handling claims were made by males (88%) and by employees on farms employing 11 or more workers (87%) (G. Robert Hagevoort, 2012).
The Need for a Dairy Safety Program

Every year dairy farms are becoming larger and more concentrated in order to increase economic efficiency (Mitloehner, 2008). As the dairy industry has changed and grown to more efficiently produce dairy products, the size of the operations have also grown, which requires dairy farms to employ more workers. This presents new challenges for dairy owners and managers, as they are required to ensure a safe working environment and comply with state or federal occupational safety and health regulations. Between 1970 and 2006, the number of U.S. farms with dairy cows fell steadily and sharply, from 648,000 operations in 1970 to 75,000 in 2006, or 88%. The total number of dairy cows in the U.S. fell from 12 million in 1970 to 9.1 million in 2006, the average herd size rose from just 19 cows per farm in 1970 to 120 cows in 2006. In 2011 62.9% of dairies had 500+ cows, 12.6% had 200-499 cows, 10.9% had 100-199 cows, and 13.6% had only 1-99 cows (Changes in the Size and Location of U.S. Dairy Farms, 2006).

In the past, the task of training and supervision of employees typically was that of management (owner, manager). With increasing dairy size and thus number of employees, this task is often delegated to employees with seniority. Formal training, including basic and theoretical study, explaining the rational or the science behind particular work related activities are not common. Often employees will know what to do (the task or activity) but may lack the knowledge of why. Insufficient understanding of the task can impact the outcome of the task in many ways: job motivation and hence job performance, thoroughness,
expedience, accuracy, and finally, but not any less important, job safety (G. Robert Hagevoort, 2012).

The number of fatal occupational injuries in agriculture has been declining at a rate of about 30% since the early 1990's and has reached a level of 3.5 fatalities per 100,000 Full Time Equivalents (National Safety Council). It can safely be postulated that the steady decline in fatalities in the last two decades is most certainly a result of increased emphasis on job site safety measures and training (G. Robert Hagevoort, 2012).

**Safety Record Keeping**

The Occupational Safety and Health Administration requires all dairy employers to provide a safe and healthful workplace free of recognized hazards and follow all applicable OSHA standards. One of these standards is the recording, reporting and maintenance of occupational injuries and illnesses. Employers with 10 or fewer employees at all times during the last calendar year do not need to keep OSHA injury and illness records unless OSHA or the Bureau of Labor Statistics (BLS) informs them in writing that records must be kept. However, farms with 11 or more workers are required record and report all occupational injuries and illnesses. Employers are required to use the OSHA Form 300 Log of Work Related Injuries and Illnesses to classify work-related injuries and illnesses and to note the extent and severity of each case. When an incident occurs, the Log is used to record specific details about what happened and how it happened. Employers are also required to keep a separate Summary
of Work Related Injuries and Illnesses (Form 300A). The Injury and Illness Incident Report (Form 301) is filled out when a recordable work-related injury or illness has occurred. These forms help the employer and OSHA develop a picture of the extent and severity of work-related incidents (Duphrate, September). Employers are required to record work-related injuries and illnesses that result in the following: death, days away from work, restricted work activity or job transfer, medical treatment beyond first aid, or loss of consciousness.

Employers must record any significant work-related injuries and illnesses that are diagnosed by a physician or other licensed health care professional, such as any work-related case involving cancer, chronic irreversible disease, a fractured bone or a punctured eardrum (Duphrate D, 2006). Employers must record the following potential dairy-related incidents when they are work-related: Any needle-stick injury or cut from a sharp object that is contaminated with another blood or other potentially infectious material, Any case requiring an employee to be medically removed under the requirements of an OSHA health standard Work-related cases involving hearing loss under certain conditions, Tuberculosis infection as evidenced by a positive skin test or diagnosis by a physician or other licensed health care professional after exposure to a known case of active tuberculosis 43 All employers must report any workplace incident to OSHA within eight hours after the death of any employee from a work-related incident or the in-patient hospitalization of three or more employees. Employers must orally report the fatality/multiple hospitalization by telephone or in person to the Area
OSHA office that is nearest to the site of the incident. Employers may also use the OSHA toll-free central telephone number (Duphrate, September).

**Costs of Agricultural Injuries**

The large direct costs for on the job dairy injuries were medical and insurance costs while the indirect costs included lost earnings, lost benefits, and training (Leigh, 2001). According to the California Department of Industrial Relations, these indirect costs may include productivity lost by employees and supervisors, the time to find or train other employees to cover for the injured worker, the cost of any damaged equipment, compensation for the injured employee, lower employee efficiency, and possible increased worker's compensation rates as well as many other possible costs (Department of Industrial Relations, 2005) Costs for agricultural injuries in recent years appear considerable (point estimate: $4.57 billion; range: $3.14 billion to $13.99 billion) They are on par with the costs of job related cancers ($9.4 billion), job related chronic obstructive pulmonary disease ($3.9 billion), and job related circulatory disease ($5.8 billion) for the same year. They are also comparable to the costs of hepatitis C in 1997 ($5.46 billion), whether job related or not. Whereas agriculture contributes roughly 1.8% of the GDP, it accounts for roughly 3.5% of all occupational injury costs nationwide. In other words, agriculture contributes twice as much to the cost of national occupational injuries as it does to national economic output. The high cost of agricultural injuries warrants greater scientific, medical and public attention to how these injuries might be prevented and cared
for in a cost-effective manner. These costs are far more significant than indicated by the attention they receive in discussions of health care costs, or even injuries in general (Leigh, 2001).

Finding a relief employee in the case of an injury can be a difficult and stressful task to a manager. There are many tasks on farms that often take years to perfect, and finding a good replacement is often impossible. For example, if a milker is injured and a replacement is desperately needed, a manager may hire a subpar replacement, which may result in improper milking procedures. These inconsistencies may result in many hidden costs like milking mastitis cows, slower milking, as well as many other potential costs. The time to train these new relief employees takes time from managers that are often busy with many other tasks. Employee efficiency will often decrease when a workday injury occurs as many employees may stop working to help the injured person and this will interrupt the workplace (Koot, 2012).

OSHA (Occupational Safety and Health Administration)

With the Occupational Safety and Health Act of 1970 (OSH Act), Congress created the Occupational Safety and Health Administration (OSHA) to ensure safe and healthful working conditions for working men and women by setting and enforcing standards and by providing training, outreach, education and assistance. OSHA is part of the United States Department of Labor. The administrator for OSHA is the Assistant Secretary of Labor for Occupational Safety and Health. OSHA’s administrator answers to the Secretary of Labor, who
is a member of the US Cabinet. The OSH Act covers employers and their employees either directly through federal OSHA or through an OSHA-approved state program. State programs must meet or exceed federal OSHA standards for workplace safety and health. Currently, there are 25 OSHA-approved state programs (plus Puerto Rico and Virgin Islands) [US Department of Labor 2011].

According to the OSH Act, any dairy farm which employs 11 or more employees at any time during the previous 12-month period or has an active temporary labor camp during that period is subject to OSHA regulatory oversight. A dairy operation is exempt from all OSHA enforcement if it: 1) employs 10 or fewer employees currently and at all times during the last 12 months, and 2) has not had an active temporary labor camp during the preceding 12 months. Family members of farm employers are not counted when determining the number of employees for OSHA oversight. A part-time employee is counted as one employee. Under OSHA’s current appropriations law, OSHA is not allowed to spend any funds appropriated to enforce any standard, rule, regulation, or order under the OSH Act which is applicable to any person who is engaged in a farming operation which employs 10 or fewer employees and does not maintain a temporary labor camp. Although OSHA is prohibited from inspecting small farming operations, these operations are not exempt from OSHA regulations and the standards are relevant. States with OSHA-approved State Plans may enforce on small farms and provide consultation or training, provided that 100% state funds are used and the state has an accounting system in place to assure that no
federal or matching state funds are expended on these activities (Duphrate, September).

1. The intent of the OSH Act is to assure so far as possible every working man and woman in this nation safe and healthful working conditions. Employers are responsible of providing a workplace free from recognized hazards that are causing or likely to cause death or serious physical harm to employees, as well as be familiar and comply with safety and health standards applicable to their respective workplace. OSH Act standards are rules that help safeguard workers (Duphrate D, 2006). Standards are grouped into four major categories: general industry (29 CFR 1910); construction (29 CFR 1926); maritime (shipyards, marine terminals, long shoring—29 CFR 1915-19); and agriculture (29 CFR 1928). The majority of standards applicable to dairy farms are outlined in 29 CFR 1910 and 1928, but 29 CFR 1926 standards may apply if construction activities are taking place on a farm. To date, seven standards specifically apply to agriculture:

1) Slow moving vehicle (SMV) emblem,

2) Anhydrous ammonia

3) Pulpwood logging

4) Temporary labor camp housing,

5) Roll over protective structures,

6) Agricultural machinery guarding

7) Cotton dust (Duphrate, September).
2. Inspections, Citations and Penalties

The OSH Act enables the Secretary of Labor to inspect job sites. A Department of Labor compliance officer may inspect the farm at any reasonable hour as a result of an employee complaint or a reportable accident [Douphrate, 2009]. (Douphrate D, 2006) OSHA inspection priorities include the following:

1) Imminent danger situations
2) Investigations of fatalities and accidents resulting in death or hospitalization of 3 or more employees
3) Formal employee complaints
4) Programmed inspections aimed at specific high-hazard industries, workplaces, or occupations
5) Follow-up inspections [US Department of Labor 2011].

A compliance officer must show proper credentials before inspection. Inspections can take place anywhere work is performed by either employer or employee. An opening conference will take place when the purpose of the inspection will be presented. The compliance officer will inspect the farm and will determine the route and duration of inspection. Injury records will be inspected as well as the written hazard communication program. After the inspection, a closing conference will take place. From 2000 to 2010, a total of 736 inspections took place on US dairy operations. Some of the more common citations were related to the following:
3. The OSH Act authorizes OSHA to impose monetary penalties as a result of cited standards. A less serious violation is one where there is a direct relationship with job safety and health but probably would not cause death or serious harm. These violations can result in penalties from $0 to $1,000. A serious violation is one where there is a high probability of accident resulting in death or serious injury. An example would be working by an open PTO shaft or a removed guard. These violations can result in penalties from $1,500 to $7,000. A willful (intentional) or knowing violation can result in penalties from $5,000 to $70,000. A repeated violation can result in penalties up to $70,000 and falsification of records can result in penalties of $10,000 or more and jail time. A violation of posting requirements can also result in penalties of $7,000. A de minimis violation does not have direct or immediate relationship to safety or health. Examples of this could be the lack of a privacy door or commode. OSHA does not issue citations for de minimis violations (Duphrate, September).

Creating a Safety Manual

The development of a sound safety program is the most effective means to manage risks and productivity on the dairy. A quality program should include the following elements:

1) Owner/Manager commitment
2) Safety communications system with employees
3) System for assuring employee compliance with safety work practices
4) Scheduled inspections/evaluation system
5) Accident investigation
6) Procedures for correcting unsafe/unhealthy conditions
7) Safety and health training and instruction
8) Recordkeeping and documentation.

The following recommended safety components have been modified from multiple sources of information pertaining to safety management and training on dairy farms (WorkSafe Victoria, 2006).

Dairy owners and supervisors are confronted with many challenges when managing a dairy farm. Implementing a comprehensive safety program to ensure worker safety and health while simultaneously complying with regulatory standards can be a daunting task. Achieving a safe working environment that is compliant with regulatory standards is not an overnight transformation, it is an ongoing process with input, participation and responsibilities involving workers at all levels. The first step an owner or manager must take to ensure the health and safety of his or her workers is to demonstrate commitment to the process and provide the necessary tools and information to all workers. Simply assuming that employees will work in a safe manner will prove to be an ineffective approach. Owners and managers should clearly communicate expectations and performance standards while simultaneously facilitating a culture where worker health and safety is top priority. Observed unsafe behavior should always be addressed in a consistent manner, and disciplinary action should be taken for workers who routinely engage in unsafe practices. While unsafe actions should
be addressed, the observance of safe behavior should also be noticed and positively reinforced. These simple practices are signs of effective leadership and will facilitate an effective safety culture. If maximum production and quality is a priority, an owner or manager should commit themselves to build an effective safety program and integrating it into the entire dairy operation. This commitment must be backed by strong organizational policies, procedures, incentives, and disciplinary actions as necessary to ensure employee compliance with safe and healthful work practices. These practices should include the following:

Establishment of workplace objectives for accident and illness prevention, similar to other performance metrics. Emphasis on worker safety and health responsibilities and recognition by workers that they are accountable. A means for encouraging employees to report unsafe conditions with assurance that management will take action (WorkSafe Victoria, 2006).

Allocation of resources for:

- Identifying and controlling hazards
- Installing engineering controls
- Purchasing personal protective equipment
- Promoting and training employees

Setting a good example of safe behavior. A safety director/Coordinator should be appointed to address safety as part of their routine job duties and be given management’s full support. An additional approach for large operations is to form a safety committee with representatives from management and workers from different areas of the farm (WorkSafe Victoria, 2006).
The safety program should include a system for communication with all employees, in a form readily understandable by all affected employees on matters related to occupational safety and health. The safety program should establish communication channels designed to encourage employees to inform the employer of hazards at the worksite without fear of reprisal. General employee meetings should have designated times to openly discuss safety issues. These meetings should be regular, scheduled and announced to all employees so that maximum attendance can be achieved. Posters and bulletins can be very effective ways of communicating with employees. Useful communication materials can be obtained from OSHA, workers’ compensation insurance carriers, the National Safety Council, and other commercial and public service agencies. A safety suggestion box can be used by employees, anonymously if desired, to communicate concerns to management. All communication efforts should be documented to demonstrate that a system of effective communication is in place. Lastly, a health and safety policy should document a commitment to safety on the farm. Incorporating the prioritization of worker health and safety and commitment to safety practice into the overall mission of the organization provides an overarching priority to all operational facets and activities on a dairy farm (WorkSafe Victoria, 2006).

A system of periodical inspections and procedures for correction and control provide a method of identifying existing or potential hazards in the workplace, and eliminating or controlling them. If hazards occur or recur, this reflects a breakdown in the hazard control system. The hazard control system is
also the basis for developing safety work procedures and injury/illness prevention training. An effective hazard control system will identify hazards that exist or might develop, how to correct those hazards, and steps to prevent their recurrence. Any time a new process is introduced or new machinery installed, an inspection should take place to identify potential hazards (WorkSafe Victoria, 2006).

A primary tool to be used to identify and recognize the areas responsible for accidents is a thorough and properly completed accident investigation. This investigation should be in writing and adequately identify the cause(s) of the accident or near-miss occurrence. Questions to ask in an accident investigation include: 1) What happened? 2) Why did the incident happen? 3) What should be done? 4) What action has been taken? Such information is critical to preventing and controlling hazards and potential accidents (WorkSafe Victoria, 2006).

A set of basic rules for the farm as well as specialized safety rules for specific tasks, equipment or processes need to be developed. The list should not be long and unmanageable. Rules should be simple and easy to understand and may need to be translated into a worker’s language. The rules should be reviewed with all new employees, as well as posted for all employees to see. Safety and health planning are effective when the dairy operation has the following: Rules written to apply to everyone and addressing areas such as personal protective equipment, appropriate clothing, expected behavior, and emergency procedures. Employees should periodically review all rules and procedures to make sure they reflect present conditions. Safety and healthful work practices developed for each specific job. Discipline or reward procedures to help
assure that safety rules and work procedures are put into practice and reinforced. A written plan for emergency situations. An emergency plan should be in place in the event of an accident, fire, disaster or other unexpected event. Employees should know their responsibilities during an emergency. A plan should include proper actions to take during fires, power failures, etc. Employees should be trained annually with reinforcement during safety meetings. 45 A written plan should be in place to communicate potential hazards associated with using dangerous substances or chemicals (WorkSafe Victoria, 2006).

Training is one of the most important elements of any safety program. Safety training allows employees to learn their job properly, brings new ideas into the workplace, and reinforces existing ideas and puts the safety program into action. Each employee needs to understand that: No employee is expected to undertake a job until he/she has received instructions on how to do it properly and safely, and is authorized to perform the job. No employees should undertake a job that appears unsafe. No employee should use chemicals without understanding their toxic properties and without the knowledge required to work with them safely. Mechanical safeguards must always be in place and kept in place. Employees are to report to a superior or designated individual all unsafe conditions encountered during work. Any work-related injury or illness suffered, however slight, must be reported to management at once. Personal protective equipment must be used when and where required, and properly maintained. Employees should receive safe animal-handling training (WorkSafe Victoria, 2006). A recent memorandum to OSHA Regional Administrators specifically
addressed safety training involving non-English speaking workers. The memorandum specifically mandates that if an employee does not speak or comprehend English, instruction must be provided in a language the employee can understand. Similarly, if the employee's vocabulary is limited, the training must account for that limitation. By the same token, if employees are not literate, telling them to read training materials will not satisfy the employer's training obligation. As a general matter, employers are expected to realize that if they customarily need to communicate work instructions or other workplace information to employees at a certain vocabulary level or in language other than English, they will also need to provide safety and health training to employees in the same manner. OSHA compliance officers are responsible for checking and verifying that employers have provided training to employees. In addition, compliance officers must check and verify that the training was provided in a format that the workers being trained could understand (Bureau Of Labor Statistics, 2010).

One particular study involving worker training and injury sought to define current methods for training entry-level workers on Colorado dairies, measure the relationship of training methods to the incidence of work-related injuries on those operations, and characterize the nature and cause of injuries reported by participating workers. Training methods were classified by content (task training versus safety training), delivery method (on-the-job verbal instruction, on-the-job demonstration, on-the-job supervision, classroom- based, and / or reading materials); and instructor (supervisor and/or co-worker). The majority (84.7%) of
interviewed workers were Mexican-born, Spanish-speaking males. The majority of workers reported training to be a combination of verbal instruction, demonstration and supervision. Twenty-nine of 72 (40.3%) participants suffered at least one work-related injury in the 12 months prior to interview. Entry-level safety training had no significant protective effect on reported injury incidence among dairy workers in the previous year. However, workers that received task-related training were four times less likely to suffer a work-related injury. In addition, training conducted by a co-worker had a significant protective effect against work related injuries. Dairy workers identified direct contact with livestock or machinery as the main causes for work-related injuries, and most injuries occurred while medicating sick cows and milking (Roman-Muniz IN, 2006).

Recordkeeping and Documentation is a vital component to every safety management program is proper documentation. All trainings, safety meetings/concerns, corrective actions, accident investigations etc. should be documented and will serve as evidence of due diligence in safety compliance. All employees should provide signatures as proof of their participation in trainings and meetings (WorkSafe Victoria, 2006).
Rich Silacci has been the herd manager of the California Polytechnic State University (Cal Poly) Dairy since 2004. This project was originally created based upon the observations and recommendations of Silacci. The University’s Safety Manual was out of date and therefore was not providing the needed structure to ensure that the Cal Poly Dairy student employees were being kept healthy and whole to the best of the university’s ability. This is essential because of the recent remodel of the milking parlor and the dairy’s high turnover rate of student employees.

The Cal Poly Dairy offers students from any major or level of experience to have the opportunity to work on a fully operational dairy. This large labor pool is beneficial for the university; however, with it brings a great hindrance as well. Students who have no experience working with large animals or unfamiliar machinery can raise many safety concerns. Therefore without proper documentation to refer to with proper safety procedures for employees to follow, it leaves a large margin for error.

Having an inadequate safety manual not only leaves student employees vulnerable to injury due to not having any proper means of written safety procedures, but also a gap in knowledge of the different methods to reporting safety concerns and hazards when things do go wrong. This lack of a current safety manual could also cause problems for the university. Without an up to date safety manual, the University can be left liable if a student were to be injured.
Based on these observations and input from others about the efficient operation of the Cal Poly Dairy, the authors led to an initiative to improve the current Cal Poly Dairy Safety Manual using templates provided by Zenith Insurance Company.

**Main Collaborator(s)**

The main collaborators for this project were Rich Silacci, Herd Manager at the Cal Poly Dairy, and Jack Passarella, Coordinator Special Accounts II, Safety & Health with Zenith Insurance Company.

Silacci graduated from Cal Poly in 1994 with a degree in Dairy Science. He then worked for Sire Power for 4 years, worked for a feed mill in his hometown of Petaluma until 2000 and owned and operated family dairy until 2007 before returning to the Cal Poly Dairy as the herd manager.

Passarella started his safety career in the United States Air Force in 1977. After leaving the military, he earned his Bachelor’s degree in Occupational Safety and Health from California State University Fresno in 1988. Passarella has been working with Agriculture and Dairy companies since 1985 where he focuses on assisting them with their safety programs and activities. Throughout his career, he has had the privilege of conducting training and working closely with many companies and organizations in promoting safety and developing a strong employee safety culture.
Components of a New Safety Manual

The authors received the old, outdated manual to refurbish. However after reviewing the current manual with Passarella and keeping in mind Silacci’s goals, the authors decided that the manual needed entirely new material and organization. In order to create a safety manual that works with the Cal Poly Dairy’s current safety program, the authors met with Silacci on October 1, 2013. During this meeting the authors and Silacci went over the current safety manual and discussed the goals that he had for improving the safety manual. Silacci’s goals were: to be short and concise, easy to use, put more safety responsibility put on student managers, and most importantly make it workable.

Making the safety manual workable means that Silacci can easily use this with all of his many student employees and that if at any point an issue or safety concern arises, this safety manual can be easily accessed. This is to ensure that hazards and accidents can be taken care of in a timely manner. The authors and Silacci had also discussed making the manual electronically available to students so they may each go through it at their own pace. Silacci would have them sign the appropriate forms and return them before they would be able to work.

The authors then met with Passarella, Coordinator Special Accounts II, Safety & Health at Zenith Insurance Company on October 15, 2013 to further discuss the legal requirements of a safety manual that could be used for the Cal Poly Dairy program. Passarella gave the authors templates and an outline on how to format such a safety manual and pointed out the necessary topics that must be included to comply with OSHA requirements.
The safety manual templates provided by Zenith Insurance Company thoroughly followed OSHA requirements. Through using these templates and researching OSHA rules and regulations, the authors were able to gain a better understanding of OSHA requirements. This includes guidelines on reporting a serious injury, proper safety equipment and requirements for training and injury prevention.

Creating a Safety Manual

The authors looked at the current Cal Poly Dairy Safety Manual to identify what type of program the dairy had been following up to this point in time. Silacci informed the authors that the safety manual was not functional for him and has in need of attention.

Silacci revealed several main goals to the authors that this new safety manual should address and include. He requested it be short and concise, easy to use, have more responsibility placed on the student managers, and most importantly make it a functional tool for the dairy.

The authors therefore used the notes and outlines provided by Silacci and Passarella to begin writing the safety manual tailored specifically to the needs of the Cal Poly Dairy. After meeting with the two collaborators, the authors started by simply taking a walk through of the dairy. Even though both authors do work at the dairy frequently, an overview of specific areas and different positions was required. The authors needed to walk around the dairy and make note of the daily activities that happen and different specific safety hazards that are distinctive to the Cal Poly
Dairy. Using this information and the templates provided by Passarella the authors could begin compiling a safety manual.

According to notes from Passarella, the safety manual for the Cal Poly Dairy, or IIPP (Injury and Illness Prevention Program) must include the following 8 elements.

**Element 1** Duties and Responsibilities

**Element 2** Compliance System

**Element 3** Communications

**Element 4** Self Inspection

**Element 5** Accident Investigation

**Element 6** Hazard Correction

**Element 7** Training

**Element 8** Recordkeeping

Each element was therefore included in the manual in a consistent and easy to follow manner. In addition, Passarella stated that only items that were specific to operations at the Cal Poly Dairy should be included in the safety manual.

To ensure that the manual was tailored to the needs of the Cal Poly Dairy, the following modifications were made to the safety manual template provided by Zenith Insurance Company. Certain safety documents that did not pertain to Cal Poly's operation, such as safety around silos, were excluded from the manual. Safety checklists were edited to exclude areas that do not exist at the Cal Poly Dairy. In front of the word 'employee' the word 'student' was inputted seeing how
all of the employees at the Cal Poly Dairy are students. More responsibility was added to student managers by placing them in the manual along with supervisors, in regards to reporting injuries and hazards. Names and dates/times when items must occur were also changed accordingly to fit the schedule of the Cal Poly Dairy. The authors decided to combine pieces from both manuals provided by Passarella to create a complete program that covered the goals that Silacci had requested. Some minor formatting was changed to create a better flow and a table of contents was added for easier retrieval of information. Another simple, yet very helpful modification was to add in page numbers to coordinate with the added table of contents.

Along with modifications made to the templates and outlines provided by Passarella, the authors also reviewed other safety manuals to compare and contrast to decide if anything else should be added. After reviewing several different safety manuals from around the world, almost all included pictures and colors such as (WorkSafe Victoria, 2006). Although this might be a good addition to the manual, Silacci’s goals specifically asked for short and concise and simple. Therefore the authors decided to keep the manual with minimal colors and graphics.

Other manuals included information regarding zoonotic diseases that could be encountered while working on a dairy. Although this is a very important safety issue, we recommend that another additional manual with this information should be made in the future. The Cal Poly Dairy has a low instance of zoonotic disease transfer therefore the authors felt that it was not a main priority.
A safety manual from Oregon State University included a section called "Key Points and Supporting Information" into their manual (Oregon State University ). This could also have been helpful to add to the manual; however, the authors felt that the templates and information provided by Zenith Insurance adequately summarized important information. Once more, Silacci asked for a short and concise manual, by adding another section that would only increase the length of the manual and make it more complex.

Compared to other safety manuals, the template provided by Zenith Insurance Company, covered the necessary information but was concise and to the point which is exactly what Silacci asked for. The templates from Zenith also followed a bullet point/short sentence format unlike the N.C Department of Labor safety manual (NC Department of Labor Occupational Safety and Health Division, 2008). This method of safety manuals could be useful for some companies; however, to accomplish Silacci’s goals, the thorough yet concise design was more applicable.

Once other manuals were compared, the goals of Silacci were explained, and tailoring to the Zenith Insurance Company was completed, the authors brought it to Silacci for final approval. Once approved, the authors then went through the newly written program with the Safety Coordinator Silacci to make sure that they understood the aspects of the program to ensure that they could teach all future student employees how to use it as well.
Chapter 4
Results and Discussion

The authors created a safety manual for the California Polytechnic (Cal Poly) Dairy as requested by the dairy Herd Manager Rich Silacci. Silacci wanted to update the dairy’s outdated safety manual. Cal Poly Dairy management will receive both an electronic copy of the manual as well as placed in an organized binder for use by management with tabs for easy access to any important forms that may need to be filled out in case an emergency arises.
SAFETY PROGRAM

(INJURY AND ILLNESS PREVENTION PROGRAM)

[IIPP]

California Polytechnic State University Dairy

Developed by:

Kathryn Rottenberg
Animal Science Major
Dairy Science Minor

Rachel White
Agriculture Communications Major
Dairy Science Minor

Along with the help of:

Zenith Insurance Company
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ELEMENT 1

DUTIES AND RESPONSIBILITIES
STATEMENT OF SAFETY POLICY

The health, safety and well being of our employees and visitors is of prime importance to management of the dairy. It is our goal at the Cal Poly Dairy to provide a safe and healthful environment for all employees and visitors.

Effective immediately, Ben Folker is appointed as Safety Coordinator. Ben has full responsibility, authority and accountability for all company health and safety programs. His objective is to coordinate all health and safety activities on the dairy to ensure compliance with safety standards.

The appointment of Ben as Safety Coordinator by no means reduces or eliminates the safety responsibilities of any dairy employee, especially the student managers. Each of us has a duty to recognize, report and act on unsafe or unhealthy situations before they lead to injury or illness.

NAME: __________________________

TITLE: __________________________

DATE: __________________________
SAFETY MANAGER

Cal Poly Dairy has assigned the responsibility for planning, directing, monitoring and controlling the injury and illness prevention program to Ben Folker, Head Manager.

The safety manager is responsible for:

1. Issuing a statement of company policy at least annually. This statement should be in the form of a letter in which the company's position on safety is outlined. Safety progress and accident prevention goals should be expressed in the letter.

2. Giving proper and prompt attention to safety recommendations requiring top management approval.

3. Issuing authority to the student managers and supervisors relating to safety issues. Cooperate fully with them in all matters relating to safety.

4. Reviewing monthly the safety performance of the dairy.

5. Reviewing student managers' and supervisors' accident investigation reports to ensure all causal factors have been identified, and that appropriate corrective actions are recommended and implemented.

6. Ensuring that jobs and tasks requiring personal protective equipment are identified, and the equipment is provided and available for use.
RESPONSIBILITIES OF EMPLOYEES

1. Work in accordance with the safety rules and regulations.
2. Wear appropriate safety equipment as required by the job.
3. Report all injuries, unsafe conditions and practices to your student managers/supervisors.
4. Ask questions if there is a misunderstanding about the way to perform a duty. Do not attempt to perform any job or operate any machinery you have not been properly trained to operate.
5. Contribute ideas or suggestions for improvement of the safety program.
6. Attend quarterly safety meetings!

AG SAFETY BEGINS WITH YOU!
ELEMENT 2

COMPLIANCE SYSTEM
SAFETY ENFORCEMENT

I certify that I have received my personal copy of the Cal Poly Dairy Injury and Illness Prevention Manual.

I further certify that I have read, and understand the Cal Poly Dairy’s policies and procedures as represented in the company’s Injury and Illness Prevention Manual.

I understand that failure to comply with all safety policies may result in immediate discharge.

STUDENT EMPLOYEE NAME: (Print) ___________________________

STUDENT EMPLOYEE SIGNATURE: ___________________________

DATE: __________
SAFETY VIOLATION WARNING NOTICE

Date: ____________

You have been observed violating the following company safety rules or practices:

_________________________________________________________________

_________________________________________________________________

_________________________________________________________________

_________________________________________________________________

Your violation may have been unintentional, or you may have not realized that you were violating a safety rule or a safe practice. We are bringing this to your attention because of management’s sincere concern for your safety. We hope that you share this concern for yourself and your fellow student employees. Production, economy or convenience of either management or our student employee's shall not take precedence over safety in our operation. Further violations of the above, or frequent violations of any safety rules, or safe practices, will result in disciplinary action.

IF IN DOUBT, ASK YOUR MANAGERS OR SUPERVISOR, DON'T TAKE CHANCES!

_________________________________________________________________

Supervisor’s Signature

I have read and understand the above warning notice. I agree that I will not commit this violation again, and that I will try to increase the safety with which I work.

_________________________________________________________________

Student Employee's Signature
ELEMENT 3

COMMUNICATIONS
ANONYMOUS NOTIFICATION BY STUDENT EMPLOYEES

Student employees at the Cal Poly Dairy are encouraged to report any unsafe condition or behavior. The following methods may be used as communication tools to report any of these conditions. This aids in the investigation of the unsafe condition or behavior and provides additional information for any corrective actions. The reporting student employee is not required to provide any self-identifying information and may submit these items anonymously.

Our student employees are advised that law protects this report. It is illegal for the employer to take any action against a student employee in reprisal for exercising rights to engage in safety communications.

The Cal Poly Dairy investigates any signed report or question as required by the safety program. If the student employee who gave the information has identified him/herself, he/she will be advised of the employer's corrective action.
STUDENT EMPLOYEE SAFETY SUGGESTION OR COMPLAINT

This form may be used by student employees to provide a safety suggestion or report an unsafe workplace practice.

Description of Unsafe Situation or Action ________________________________________________________

__________________________________________________________________________________________

__________________________________________________________________________________________

__________________________________________________________________________________________

Reasons for Unsafe Situation or Practice ______________________________________________________

__________________________________________________________________________________________

__________________________________________________________________________________________

My Suggestion for Improving Safety _____________________________________________________________

__________________________________________________________________________________________

__________________________________________________________________________________________

Has This Subject Been Reported to Your Supervisor? Yes _____ No _____

Student employee Name (Optional) ____________________________________________________________

Student employees are advised that law protects this report. It would be illegal for the employer to
take any action against an employee in reprisal for exercising rights to engage in safety
communications.

The employer will investigate any report or question and advise the worker who gave the
information of the employer's corrective action.
STUDENT EMPLOYEE HAZARD INFORMATION FORM

This form is for use by student employees who wish to provide a safety suggestion or report an unsafe workplace condition or practice.

Description of Unsafe Condition or Practice: _______________________________________

_____________________________________________________________________________

_____________________________________________________________________________

Causes or Other Contributing Factors: _____________________________________________

_____________________________________________________________________________

_____________________________________________________________________________

_____________________________________________________________________________

Student Employee's Suggestions for Improving Safety: _____________________________

_____________________________________________________________________________

_____________________________________________________________________________

Has This Matter Been Reported to the Area Supervisor?  Yes ___ No ___

_____________________________________________________________________________

Student Employee Name (optional) _____________________________________________
ELEMENT 4

SELF INSPECTION
PERIODIC INSPECTION SYSTEM

Complete this form on a monthly basis. Rotate the student employees that complete the form.

- If an item complies as stated, indicate by placing a check in the "Comply" column.
- If an item does not comply but is immediately corrected, indicate by placing a check in the "Corrected" column.
- If unable to correct an item that does not comply, indicate by placing a check in the "Does not comply" column and explaining the situation on the back of the form.

Completed form should be discussed by management and kept for reference.

### INSPECTION ITEM

<table>
<thead>
<tr>
<th>MILK BARN</th>
<th>Does Comply</th>
<th>Corrected</th>
<th>Does Not Comply</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Equipment clean</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Disease control practiced</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Equipment properly wired and grounded</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Hazards of &quot;Kick Zone&quot; known</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Safe animal movement practiced</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Walkways clear of obstructions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Proper protective clothing worn</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HAY &amp; FEED</th>
<th>Does Comply</th>
<th>Corrected</th>
<th>Does Not Comply</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. Scoops, front loaders and hay booms operated properly</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Stacking and unstacking hay done safely</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. No jumping from hay stacks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Hay hooks used properly</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Hay bales moved safely</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. No smoking in hay barn</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Fire extinguishers charged and available</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Equipment stored properly</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### WORK AREA SAFETY INSPECTION

<table>
<thead>
<tr>
<th>Work Area Inspected</th>
<th>Name of Inspector</th>
<th>Inspection Date</th>
</tr>
</thead>
<tbody>
<tr>
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</table>

<table>
<thead>
<tr>
<th>Safety Hazard/Violation</th>
<th>Corrective Action</th>
</tr>
</thead>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Corrective action certified by: ____________________________

Date corrective action completed: __________________

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<thead>
<tr>
<th>Safety Hazard/Violation</th>
<th>Corrective Action</th>
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</table>

Corrective action certified by: ____________________________

Date corrective action completed: __________________
ELEMENT 5

ACCIDENT INVESTIGATION
REPORTING AN INCIDENT

All incidents that result in injury, illness, first aid or doctor treatment are investigated and an incident report completed. The investigation is conducted by Rich Silacci, Dairy Manager, and a copy of the report reviewed and maintained by Ben Folkers, Safety Coordinator. When hazards are identified as the primary or underlying cause, they are eliminated, following procedures addressed under Hazard Correction.

The purpose of an incident investigation is to prevent similar incidents, not to place blame. If the injured student employee or someone else contributed to the incident by failing to follow safety rules, then disciplinary action may be appropriate.

The following procedures are part of performing a successful investigation:

1. Visit the incident scene as soon as possible while facts are fresh and before witnesses forget important details.
2. If possible, interview the injured student worker at the scene of the incident and “walk” him or her through a reenactment, being careful not to create a situation that exposes the investigator to injury.
3. Conduct all interviews in private. Talk with anyone who has knowledge of the equipment or circumstances contributing to an incident, even if they did not witness it firsthand.
4. Interview witnesses one at a time and have them complete the Incident Investigation Report.
5. Document details graphically. For some incidents, you may need to preserve the scene by cordoning the area until the investigation ends; otherwise, use sketches, diagrams, and photos and take measurements when appropriate.
6. Focus on both unsafe acts and unsafe conditions. Describe what, how, and why it happened. Determine the cause(s) of the incident.
7. Include a plan for preventing similar incidents in the future. Corrective actions usually involve correcting unsafe conditions, changing processes or procedures, student employee training or retraining, or a combination of the above.

The unsafe acts of persons and the unsafe conditions that cause incidents can be corrected only when they are known specifically. The incident investigation is an important method to identify hazards and to correct them. Document completion of corrective actions.
Incident Investigation Report

The purpose of this report is to help prevent similar incidents from recurring. Make this report as accurate and thorough as possible. Remember, always follow-up with the appropriate corrective action(s).

Incident: □ Near Miss  □ Minor Injury  □ Minor Illness  □ Major Injury  □ Major Illness

Incident Date: ___________________________ Time: ___________________________

AM/PM

Injured Student Employee: _____________________________________________________

Occupation: ___________________________ Months on this job: ____________

Incident Description
Where did the incident occur?
________________________________________________________________________

Witness(es)
________________________________________________________________________

How did the incident occur? (What was the student employee doing when injured?)
________________________________________________________________________

Describe the injury(s) or damage
________________________________________________________________________

What unsafe act(s) or condition(s) contributed to the incident?
________________________________________________________________________

Circle Affected Body Part

Corrective Actions
What do you recommend be done (or have you done) to prevent this type of incident from recurring?
________________________________________________________________________

What corrective action(s) has (have) been taken? Date: ___________________________
________________________________________________________________________

Investigation conducted by: ___________________________ Date: ______________________

Report reviewed by: ___________________________ Date: ______________________
Student Employee Report of Injury

The purpose of this report is to prevent similar incidents from occurring. It should be completed and signed by the injured student worker.

Incident: □ Near Miss □ Minor Injury □ Minor Illness □ Major Injury □ Major Illness

Incident Date: __________________________ Time: __________________________

AM/PM

Injured Student Employee: __________________________

Occupation: __________________________

Months on this job: __________

Incident Description

When did you report the incident and to who?

________________________________________

________________________________________

Did you require medical attention? Yes: ______ No: ______

Location of incident (entrance, loading dock, bathroom, etc.): __________________________

Witness(es)

________________________________________

________________________________________

Describe in detail how the incident occurred and what you were doing when it occurred?

________________________________________

________________________________________

Circle Affected Body Part

What body part(s) were affected?

________________________________________

What unsafe act(s) or condition(s) contributed to the incident?

________________________________________

What is at least one thing that can be done to prevent this type of incident from recurring?

________________________________________

________________________________________

Student Employee Signature: __________________________ Date: __________
Witness Incident Report

The purpose of this report is to prevent similar incidents from occurring. Remember, we are fact finding, not fault finding. Please make this report as accurate and thorough as possible.

Witness Name: ___________________________ Time: ____________
AM/PM

Job Title/Occupation: ___________________________ Work Phone: ____________

Incident:  □ Near Miss  □ Minor Injury  □ Minor Illness  □ Major Injury  □ Major Illness

Incident Date: ___________________________ Time: ____________
AM/PM

Injured Student Employee: ____________________________

Incident Description
Location of incident (entrance, loading dock, bathroom, etc.): ____________________________

Describe in detail how the incident occurred and what the student employee was doing when it occurred.

____________________________________________________________________________________

What unsafe act(s) or condition(s) contributed to the incident?
____________________________________________________________________________________

What body part(s) were affected?
____________________________________________________________________________________

What is at least one thing that can be done to prevent this type of incident from happening again?
____________________________________________________________________________________

Witness Signature: ___________________________ Date: ____________
ELEMENT 6

HAZARD CORRECTION
HAZARD RECOGNITION AND CONTROL

The Cal Poly Dairy strives to have a workplace free from recognized hazards. Once hazards have been identified, make sure they are properly addressed and controlled and that you properly document the date of the corrective action.

ONGOING

Inspections

Periodic bi-monthly inspections are conducted to identify new hazards or unsafe work practices and correct them. Upon review of the periodic inspection the supervisor or safety coordinator will:

• Take immediate action to fix any unsafe condition or activity; or
• Take steps to correct unsafe conditions if they cannot be fixed in an immediate manner (such as promptly completing a work order or notifying appropriate persons).

If the supervisor identifies an imminent hazard that cannot be eliminated without endangering student employees and/or property, then all exposed student employees will be evacuated except those needed to fix the problem. Remaining student employees will use appropriate gear and other safeguards when removing hazards.

Completed inspection forms are discussed by management and kept for reference.

Preventive Maintenance

A preventive maintenance and inspection program is in place for equipment and vehicles. Appropriate actions are taken to correct hazards or deficiencies identified.

HAZARD REPORTING

All hazards reported will be analyzed and addressed. These are documented and tracked to completion.
HAZARD ABATEMENT RECORD

Safety items identified during inspection/investigation are submitted to Ben Folkor, Safety Manager, for review. An action plan is developed to resolve each specific safety item (hazards, needed policies, etc.) by a set completion date and by those assigned responsibility. This form is used to document identified problems, steps to be taken, and completion deadline.

OVERALL ACTION PLAN

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<tr>
<th>Priority</th>
<th>Major Action Steps to be Taken (Assign Each Step a Number)</th>
<th>Projected Completion Date</th>
<th>Date Completed</th>
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ELEMENT 7

TRAINING
WHY DAIRY SAFETY TRAINING IS IMPORTANT

1. Dairy farming involves long hours, hard work and requires attention to detail.
2. Productivity and efficiency are important in the dairy business, both can be affected by work injuries.
3. Each dairy and its equipment are different. If you have any questions or concerns, talk to your student managers or supervisor.
4. Your student managers and supervisor is concerned with your safety and in preventing work injuries.
5. This training program is intended to give you an overview of the hazards present on a dairy farm and the proper safety precautions to take to avoid injury.

Remember – Dairy Safety begins with you!

GENERAL SAFETY REGULATIONS

The Cal Poly Dairy strives to provide you a safe and healthful work environment and equipment. But safety begins with YOU. You are responsible to work in a safe manner and immediately report any hazards to your student managers or supervisor. Failure to follow safe work procedures or violation of safety rules will result in disciplinary action. The following list of safety rules is not a complete list. Your student managers will provide you with additional information and training as necessary and that pertains to your specific job.

1. Report all accidents to your immediate student manager or supervisor.
2. Report all unsafe or broken tools or equipment to your student manager or supervisor.
3. A major portion of the accidents that occur are caused by the “thoughtless act”. Don’t take chances. It isn’t worth it!
4. Observe all warning signs, safety bulletins, and posters.
5. Avoid ALL horseplay and never distract another worker.
6. Use protective clothing and equipment. The employer furnishes goggles, safety glasses, guards, and other protective equipment. It is mandatory that you use it when required.
6. It is the responsibility of each employee to immediately report to a student manager or supervisor any safety hazard.
8. To lift heavy objects, squat down and keep your back straight; use the leg muscles when lifting. Do not attempt to lift any object heavier than you can handle.
9. When using sharp-edged tools, cut away from your body, otherwise a tool may slip and injure you.

10. Before starting work, tuck in loose clothing.

11. Keep the floors, aisles, and passageways clear of stock, materials, scrap, tools, oil, and equipment. You are responsible for keeping your work area clean and organized.

12. Do not undertake a job that appears to be unsafe.

13. Use caution when working around cattle.

14. Bulls can be extremely dangerous. Feed, handle, and move with caution.

15. Dairy chemicals must be stored and handled according to label.

16. Don't allow children around lagoons, chemical storage areas, or near bulls or fresh cows.

17. Make sure there is adequate light in areas where dairy activities occur at night.

SAFETY TRAINING

Indicate the topics covered with the student employee by having them sign their initials on the Employee Training Log blank line next to the topics covered at the safety meetings.

A. TOOLS AND MACHINES

1. Use only hand tools, which are safe. Worn or defective tools should always be replaced or tagged out of service until repaired.

2. Always use the correct tool for the job. THINK about doing the job the safest way.

3. Do not distract the attention of any student employee operating a machine or tool. In the event someone wishes to speak with you, discontinue your work, and stop the machine while you are talking. SAFE OPERATION OF EQUIPMENT REQUIRES CONCENTRATION.
B. EQUIPMENT AND VEHICLE SAFETY

1. Employees shall exercise safety precautions at all times while operating vehicles and equipment.
2. There shall be no smoking when fueling vehicles or when using flammable or combustible materials.
3. Smoking or open flame is prohibited within twenty-five (25) feet of fueling operations.
4. Radiator pressure shall be released by slowly loosening cap or cooling the radiator with water before the cap is completely removed.
5. Use your seat belts on the highway.
6. Check to the rear of your vehicle before backing up.
7. Vehicles shall be checked each shift/morning by the driver as to condition of fuel, tires, oil, battery, turn signals, lights, brakes and safety equipment, windshield wipers and washers.
8. Vehicles shall be adequately secured against accidental starting or movement when left unattended.
9. Keep all vehicles clean of trash and litter. All tools and equipment shall be properly guarded, stowed and securely fastened when transported with personnel.
10. Riding on equipment by unauthorized personnel is prohibited.
11. Never get in a mixer wagon while it's mixing feed.
12. PTO shields must always be in proper working order.

C. LADDERS

1. Always use a ladder with the correct type of safety feet for the surface.
2. Check the ladder for weak or damaged rails and loose or broken rungs. Do not build a makeshift ladder.
3. While climbing, or coming down, face the ladder and use both hands.
4. Stay within safe limits of balance and never shift a ladder while your weight is on it.
5. Metal ladders shall not be used when working on or near electrical equipment.
6. Ensure that your hands and the bottoms of your shoes are free from dirt and grease before
climbing a ladder.

7. Wooden ladders shall not be painted or repaired if side rails or steps are broken. Discard them immediately.

8. Properly secure the ladder to the haystack and place on a level surface.

**D. ELECTRICAL SAFETY**

1. Take utmost precaution when working with electricity.

2. Always seek help if you are unsure of what you are doing.

3. Remember that most of the electrical switch boxes are high in voltage. Carelessness can result in death from electrical shock.

4. Electric tools shall not be operated where danger of flammable vapors, gasses and liquids exist, or where dust or water is present.

5. Electrical equipment repairs shall be made only by qualified personnel. Machines being repaired will have the electricity shut off at the circuit box and the switch locked, so it cannot be reactivated, except by the person performing the repairs.

6. Use only properly grounded electric tools.


**E. HANDLING ACIDS, CAUSTICS AND CHLORINE**

Many chemicals are used on a dairy farm for cleaning and disinfecting. Most chemicals can be dangerous if not handled properly.

Alkaline soaps, acid sanitizers and iodine disinfectants are the most common. Handling acid can be safe if you have the proper respect for the material. Plan each job carefully and stick to the safe handling procedures. There is a reason for every detail of safety procedures and many times it is learned as a result of a serious injury. Don't take short cuts or experiment when working with chemicals. Here are a few simple suggestions, which are extremely important for safe handling:

1. Use all necessary protective equipment and clothing. (Gloves, aprons, boots, goggles, etc).

2. Avoid mixing of chemicals, unless you are absolutely sure of what you are doing or are supervised by someone who does.

3. An emergency eyewash should be installed in the chemical area; and student employees should know its location. Post emergency phone numbers. Know where the eyewash station is located before working with acids or caustics.
4. Remove chemicals spilled on your body as quickly as possible by flushing with large quantities of water.

5. Never use air pressure to remove chemicals from drums or other vessels.

7. Keep stoppers fastened whenever drums are moved, whether they are full or empty.

7. Vapors and fumes are deadly. There's a possibility of chronic poisoning when a fairly large amount is inhaled over a short period of time.

8. Keep chemicals away from children.

9. Use chemicals strictly for their intended purpose. Read the label and follow the instructions.

10. Keep chemicals in their original containers. Make sure they are clearly and accurately labeled.

11. Move heavy or large containers only with a forklift or a barrel truck.

12. Store chemicals in a secure area according to label instructions. Keep them close to ground level.

13. Mix chemicals only in a well ventilated area. Gases may be harmful. Use the proportions stated on the label and watch for incompatible chemicals. KEEP ACIDS AND BASES SEPARATE.

14. Never smell or taste a chemical to identify it. If you can't identify it, don't use it!

15. Do not leave chemicals unattended when using. Return them to their proper place when finished.

**F. FIRST AID MUST BE VERY PROMPT...**

1. Wash or immerse in water immediately.

2. Remove clothing.

3. If in eyes, hold eyelid open and flush with a gentle stream of clean water.

4. Get to a physician at once for all eye burns and other burns, if extensive or deep

AND DO ALL THESE THINGS IMMEDIATELY!!!!!!!!!
G. FIRE PREVENTION

1. Report any fire immediately to any student manager/supervisor.

2. Become familiar with the location of all fire exits and fire extinguishers. In case of fire, turn off all electrical equipment and walk quietly to the nearest exit. Follow your student manager or supervisor’s direction.

3. Do not block access to fire fighting equipment or fire exits.

4. Fire sprinklers must never be blocked.

H. HANDLING CATTLE SAFELY

1. Always stand or walk to the animal’s side, so it can see you.

2. Animals are territorial, extremely sensitive to noise and may be easily frightened.

3. Turn the animal by walking slowly toward its shoulder with your arm outstretched. As your hand passes the animal’s nose, the animal will turn.

4. Avoid being caught between the animal and a fixed object. You could be crushed.

5. Cattle must always be properly restrained before AI or any management procedure. Use squeeze chutes when appropriate.

6. Use extreme caution around bulls and fresh cows.

7. Aggressive bulls, utilized as cleanup bulls, must be reported to the herdsman and isolated.

8. Never approach a cow from her blind zone without proper warning.


10. Use caution when working with cattle in the milking parlor. A calm environment will reduce accidents.

11. Always make sure to be aware of the parlor sides and crowd gate when moving cattle in and out of the parlor.

12. When working in the parlor, keep your hands off all buttons until you have made sure that all cows are completely out of the way.
I. HANDLING DAMS AND CALVES SAFELY

*Cows are unpredictable during and immediately after labor. Treat them with caution.*

1. When assisting with calving, properly restrain the cow with a halter tie or in a locking stanchion.
2. If using pulling chains or ropes, never wrap them around your wrist or waist; you could be dragged.
4. Do not move between a dam and her newborn calf. When separating them, be cautious and deliberate.

J. HANDLING YOUNG CALVES

Between birth and 24 months, a calf may have the following procedures performed:

- Vaccination
- Dehorning
- Tagging
- Excess Teat Removal

1. Always restrain the animal to protect it and yourself.
2. Use available locking stanchions and squeeze chutes.
3. Be gentle but firm with the calf.

K. ARTIFICIAL INSEMINATION SAFETY

*Liquid nitrogen used to store semen can cause skin burns or eye injury; be careful!*

1. Use tweezers to remove straws of semen from the nitrogen tank.
2. Wear eye protection when working with glass ampoules.
3. Keep and work with the nitrogen tank at ground level.
4. When moving the tank with a vehicle, fasten it securely to the vehicle.
5. Restrain cows to be inseminated, use correct approach and insertion techniques.
I. HANDLING BULLS SAFELY

Bulls are common on dairies, for use with problem breeders or for cleanup, but here at Cal Poly they are used specifically for educational instruction.

1. Bulls can be aggressive and should be considered as dangerous. Post warning signs in areas where bulls are kept.
2. Bulls can get aggressive with age. After two years of age, watch for aggressive behavior such as belling or pawing. Isolate and/or replace aggressive bulls.
3. Nose rings at an early age offer the best control. Minimize bull handling by keeping bulls in a separate pasture and bringing the cows to them.
4. Make sure pass-throughs are kept clear, and restrict access to bull pens to knowledgeable people.
5. Never trust a bull and never turn your back to one.

M. MILKING PARLOR SAFETY

Milking barns are a place of routine but safety hazards can develop. Inspect the barn regularly to detect and correct hazards.

1. Maintain the grounds on electrical equipment to prevent stray voltage.
2. Beware of cows with anxious or odd behavior.
3. Milking machines with automatic detachers can swing away from the cow and into the milker. Be cautious!
4. Slippery floors can develop from back flush. Wear boots with non-slip soles and remove excess water from floors.
5. Warm up at the beginning of your shift. Stretch frequently to avoid fatigue.

N. FEEDING LIVESTOCK SAFELY

Although routine and straightforward, carelessness during feeding can invite serious injury.

1. Store feed in lightly traveled and well-lighted areas.
2. Stack baled feed properly on a firm and level surface.
3. Use a well-maintained ladder resting on solid ground to climb stacks. Tie the ladder off at the top, if possible.
4. Be aware of others when dropping bales from stacks. Drop bales horizontally to avoid bounce. Use broken bales first.
5. After use, store pitchforks and hayhooks safely away.

O. FEED MIXERS AND LOADERS

Farm equipment and machinery can create serious potential for injury.

1. Know the safe and proper operation of all equipment to be used. If in doubt, ask your student manager or supervisor before you start the equipment.
2. Operate all equipment at safe speeds.
3. Never allow a passenger to ride any equipment not designed by the manufacturer for more than one person.
4. Keep front-end loaders balanced when moving and the bucket no higher than necessary to clear objects.
5. Help keep your dairy’s tractors and equipment in good condition. Keep all guards in place and report any malfunctions or safety problems to your student manager or supervisor.

P. FACILITY SAFETY

The general farm area can host a variety of hazards.

1. Stacking silage higher than 20 feet invites collapse.
2. Wastewater lagoons should be properly fenced to keep people and cattle out.
3. Good drainage is critical. Keep all concrete lanes and walkways free from standing water to prevent slippery algae growth.
4. Ensure that concrete structures are in good repair, walkways are not slippery, and drain covers are in place.
5. Maintain fences, barns, and equipment in good condition. Maintenance and safety can increase productivity.
EMPLOYEE TRAINING LOG

All of the rules indicated below were explained to me, I fully understand them, and agree to abide by them while working for The Cal Poly Dairy. Have the student employee sign their initials in the blank next to the safety rules covered with them.

General Safety Regulations

[ ] A. Tools and Machines
[ ] B. Equipment and Vehicle Safety
[ ] C. Ladders
[ ] D. Electrical Safety
[ ] E. Handling Acids, Caustics and Chlorine
[ ] F. Fire prevention
[ ] G. Working with cattle

Student Employee’s Signature: __________________________ Date: __________

Supervisor’s Signature: __________________________ Date: __________
FARM ANIMAL SAFETY

KEY POINTS:

ALWAYS       Consider animals’ temperament, habits, and handling characteristics.
ALWAYS       Keep working areas clean and equipment in proper repair.
ALWAYS       Wear personal protective equipment when appropriate such as: rubber boots, gloves, and safety glasses.
ALWAYS       Keep children and unauthorized persons out of dangerous areas.
ALWAYS       Treat each animal as an unpredictable individual.
ALWAYS       Let the animal know you are approaching.
NEVER        Threaten or tease a bull.
NEVER        Handle an animal if you have not been trained of the dangers, which exist.

All of the rules indicated above were explained to me. I fully understand them and agree to abide by them while working for the Cal Poly Dairy.

______________________________   __________________________
Student Employee Signature       Date

______________________________   __________________________
Supervisor Signature             Date
BACK INJURY AVOIDANCE FOR THE AGRICULTURAL WORKER

KEY POINTS:

ALWAYS Lift the hitching tongue with your legs, not your back.
ALWAYS Get help when moving heavy items or equipment.
ALWAYS Limit the weight of the load to be lifted.
ALWAYS Mount/dismount all equipment carefully.
NEVER Twist your back or body while carrying a load.
NEVER Reach or extend yourself to lift an object.
NEVER Jump off a tractor after sitting for a long period of time.

All of the rules indicated above were explained to me. I fully understand them and agree to abide by them while working for the Cal Poly Dairy.

Student Employee Signature Date

Supervisor Signature Date
LADDER SAFETY

KEY POINTS:

ALWAYS
Inspect the ladder to make certain it is in good working condition.
Report broken ladders to your student managers or supervisor.

ALWAYS
Make certain the ladder is secure on even, solid ground.

ALWAYS
Face the ladder when climbing or descending it.

ALWAYS
Stay within safe limits of balance and never shift a ladder while your
weight is still on it.

ALWAYS
Ensure that your hands and the bottom of your feet are free from dirt
and grease before climbing the ladder.

ALWAYS
Keep both feet on the ladder at all times.

NEVER
Jump from the ladder.

NEVER
Climb past the third rung from the top of the ladder.

NEVER
Support the ladder on tree branches.

NEVER
Place a metal ladder where it can come within ten (10) feet of a high
voltage line.

NEVER
Over reach, push, or pull the ladder while working from it.

All of the rules indicated above were explained to me. I fully understand them and agree to abide
by them while working for the Cal Poly Dairy.

______________________________________________  ________________
Student Employee Signature                Date

______________________________________________  ________________
Supervisor Signature                        Date
AGRICULTURAL TRACTOR SAFETY

KEY POINTS:

ALWAYS Use seat belts on tractors that have rollover protection system (ROP).
ALWAYS Carry a first aid kit and dry chemical extinguisher on the tractor.
ALWAYS Use extra care when driving up an incline.
ALWAYS Balance your load, including the weight of the load on the trailer.
ALWAYS Reduce speed before turning.
ALWAYS Stop the engine before getting off the tractor.
ALWAYS Keep the tractor in gear when going downhill.
ALWAYS Lock brake pedals together when traveling on roads and unlock them when working a field.

NEVER Allow riders. Tractors are designed to carry only one person, "the operator".
NEVER Hitch chains or implement tongues to the axle or other high points of the tractor.
NEVER Start a tractor by shorting across starter and solenoid terminals.
NEVER Start a tractor while standing on ground. Start tractor only from operator's seat, with transmission in neutral or park.
NEVER Attach a post or log to rear wheels when a tractor is stuck in the mud.

All of the rules indicated above were explained to me. I fully understand them and agree to abide by them while working for the Cal Poly Dairy.

Employee Signature    Date

Supervisor Signature    Date
SAFETY COMMUNICATIONS

The Cal Poly Dairy is committed to providing its student employees or staff with effective communication that will give its student employees the necessary information to perform their duties and tasks in a safe and healthful manner. We are committed to open two-way communication between management and student employees, in a form readily understandable by student employees, and have adopted the following methods of communication:

SAFETY MEETINGS

Safety meetings are in the workplace to review each element of the Safety Program and to discuss safe work procedures. The Safety Program is available for student employee review at all times. Types of safety meetings conducted include:

- **New Student Employee:** New student employees will be provided with safety training prior to beginning work. The purpose is to inform new student employees of existing and new safety policies, equipment and procedures. The company safety manual will also be discussed in order to provide further clarification of its contents.

- **One-on-one:** These meetings are held as communication sessions between a student employee and his/her student manager or supervisor. Their purpose is for individual clarification or reminders of particular safety issues and hazards.

- **Other:** Student managers or supervisors are given the responsibility of holding scheduled quarterly meetings to address any safety issue or topic relevant to the operation or tasks.
# SAFETY MEETING LOG

Name of Trainer ____________________________

Subject(s) Covered ____________________________

Training Aids Used ____________________________

Work Location ____________________________

Attendees (Please print and sign your name legibly:)

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ELEMENT 8

RECORDKEEPING
RECORD KEEPING

Records of hazard assessment inspections, including the name(s) of persons conducting the inspections, the unsafe work practices and conditions that have been identified and the action taken to correct the unsafe work practices and conditions, are recorded on a hazard assessment and correction form.

Documentation of safety and health training for each student employee, including the student employee’s name, training dates, type(s) of training, and training providers, are recorded on a student employee training and instruction form.

Records of accident investigations conducted at our dairy will be kept on file.

Inspection records, accident investigation records and training reports will be maintained for one year, except for training records of employees who have worked for less than one year which are provided to the employee upon termination of employment.
Receipt of Safety Program

I certify that I have received my personal copy of the Cal Poly Dairy Safety Program.

I further certify that I have read, and understand the Cal Poly Dairy policies and procedures as represented in the company’s Safety Program.

I understand that failure to comply with all safety policies may result in immediate discharge.

STUDENT EMPLOYEE NAME: (Print) ____________________________

STUDENT EMPLOYEE SIGNATURE: _____________________________

DATE: __________
Chapter 5
Conclusions and Recommendations

Conclusions

This project resulted in a high quality, individualized safety manual for the Cal Poly Dairy that fulfilled Herd Manager, Rich Silacci's goals. These goals were: to be short and concise, easy to use, have more safety responsibility put on student managers, and most importantly make it workable.

In Passarella and Silacci’s opinion, the authors created a safety manual that is probably one of the most personalized safety manuals for any university dairy in the state of California. Cal Poly Dairy management was extremely thrilled with the results of this project and the dairy will utilize the manual for many years to come. Cal Poly Dairy Manager Silacci has already begun planning to use the safety manual as part of the dairy’s safety program at the next student employee meeting. This valuable resource will especially come in use in June when a large number of graduating seniors who have been working there for multiple years will be leaving the not as experienced, younger and newer student employees to take over. They, along with any other new student employees, may not be as familiar with all of the possible hazards on the Cal Poly Dairy but with this new safety manual, they can at least be more aware of what they need to be concerned about on the job.

Recommendations

The authors have thought of four possible recommendations after reviewing the entire process of updating the Cal Poly Dairy safety manual:
1) It is recommended that this newly created safety manual be immediately implemented. Management should make this manual immediately available to employees, as well as walk them through it in order to avoid any possible confusion or injuries that may arise.

2) It is also recommended that management develops an in-depth zoonoses safety plan for the Cal Poly dairy as an additional resource for dairy employees.

3) It is further recommended that a future student could take this process one step further and create an individualized safety training program in correlation with the material covered in the safety manual.

4) The authors’ last recommendation would be to create a Fire Response and Evacuation Plan to coincide with the fire safety section in the safety manual.

The authors feel that with these four further recommendations, the Cal Poly Dairy would have a complete and all-encompassing safety program.
Bibliography


Appendix A. Safety Program: Injury and Illness Prevention Program
SAFETY PROGRAM

(INJURY AND ILLNESS PREVENTION PROGRAM)

[IIPP]

California Polytechnic State University Dairy

Developed by:

Kathryn Rottenberg
Animal Science Major
Dairy Science Minor

Rachel White
Agriculture Communications Major
Dairy Science Minor

Along with the help of:

Zenith Insurance Company
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DUTIES AND RESPONSIBILITIES
STATEMENT OF SAFETY POLICY

The health, safety and well being of our employees and visitors is of prime importance to management of the dairy. It is our goal at the Cal Poly Dairy to provide a safe and healthful environment for all employees and visitors.

Effective immediately, Ben Folker is appointed as Safety Coordinator. Ben has full responsibility, authority and accountability for all company health and safety programs. His objective is to coordinate all health and safety activities on the dairy to ensure compliance with safety standards.

The appointment of Ben as Safety Coordinator by no means reduces or eliminates the safety responsibilities of any dairy employee, especially the student managers. Each of us has a duty to recognize, report and act on unsafe or unhealthy situations before they lead to injury or illness.

NAME: ________________________________

TITLE: ________________________________

DATE: ________________________________
SAFETY MANAGER

Cal Poly Dairy has assigned the responsibility for planning, directing, monitoring and controlling the injury and illness prevention program to Ben Folker, Herd Manager.

The safety manager is responsible for:

1. Issuing a statement of company policy at least annually. This statement should be in the form of a letter in which the company's position on safety is outlined. Safety progress and accident prevention goals should be expressed in the letter.

2. Giving proper and prompt attention to safety recommendations requiring top management approval.

3. Issuing authority to the student managers and supervisors relating to safety issues. Cooperate fully with them in all matters relating to safety.

4. Reviewing monthly the safety performance of the dairy.

5. Reviewing student managers' and supervisors' accident investigation reports to ensure all causal factors have been identified, and that appropriate corrective actions are recommended and implemented.

6. Ensuring that jobs and tasks requiring personal protective equipment are identified, and the equipment is provided and available for use.
RESPONSIBILITIES OF EMPLOYEES

1. Work in accordance with the safety rules and regulations.

2. Wear appropriate safety equipment as required by the job.

3. Report all injuries, unsafe conditions and practices to your student managers/supervisors.

4. Ask questions if there is a misunderstanding about the way to perform a duty. Do not attempt to perform any job or operate any machinery you have not been properly trained to operate.

5. Contribute ideas or suggestions for improvement of the safety program.

6. Attend quarterly safety meetings!

AG SAFETY BEGINS WITH YOU!
ELEMENT 2

COMPLIANCE SYSTEM
SAFETY ENFORCEMENT

I certify that I have received my personal copy of the Cal Poly Dairy Injury and Illness Prevention Manual.

I further certify that I have read, and understand the Cal Poly Dairy’s policies and procedures as represented in the company's Injury and Illness Prevention Manual.

I understand that failure to comply with all safety policies may result in immediate discharge.

STUDENT EMPLOYEE NAME: (Print) ____________________________________

STUDENT EMPLOYEE SIGNATURE: ________________________________

DATE: __________
SAFETY VIOLATION WARNING NOTICE

Date: ____________

You have been observed violating the following company safety rules or practices:

_______________________________________________________________________________

_______________________________________________________________________________

_______________________________________________________________________________

_______________________________________________________________________________

_______________________________________________________________________________

Your violation may have been unintentional, or you may have not realized that you were violating a safety rule or a safe practice. We are bringing this to your attention because of management's sincere concern for your safety. We hope that you share this concern for yourself and your fellow student employees. Production, economy or convenience of either management or our student employee's shall not take precedence over safety in our operation. Further violations of the above, or frequent violations of any safety rules, or safe practices, will result in disciplinary action.

IF IN DOUBT, ASK YOUR MANAGERS OR SUPERVISOR, DON'T TAKE CHANCES!

____________________________________

Supervisor's Signature

I have read and understand the above warning notice. I agree that I will not commit this violation again, and that I will try to increase the safety with which I work.

____________________________________

Student Employee's Signature
ELEMENT 3

COMMUNICATIONS
ANONYMOUS NOTIFICATION BY STUDENT EMPLOYEES

Student employees at the Cal Poly Dairy are encouraged to report any unsafe condition or behavior. The following methods may be used as communication tools to report any of these conditions. This aids in the investigation of the unsafe condition or behavior and provides additional information for any corrective actions. The reporting student employee is not required to provide any self-identifying information and may submit these items anonymously.

Our student employees are advised that law protects this report. It is illegal for the employer to take any action against a student employee in reprisal for exercising rights to engage in safety communications.

The Cal Poly Dairy investigates any signed report or question as required by the safety program. If the student employee who gave the information has identified him/herself, he/she will be advised of the employer's corrective action.
STUDENT EMPLOYEE SAFETY SUGGESTION OR COMPLAINT

This form may be used by student employees to provide a safety suggestion or report an unsafe workplace practice.

Description of Unsafe Situation or Action ____________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________

Reasons for Unsafe Situation or Practice ____________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________

My Suggestion for Improving Safety ________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________

Has This Subject Been Reported to Your Supervisor? Yes ____ No ____

Student employee Name (Optional) ______________________________

Student employees are advised that law protects this report. It would be illegal for the employer to take any action against an employee in reprisal for exercising rights to engage in safety communications.

The employer will investigate any report or question and advise the worker who gave the information of the employer's corrective action.
STUDENT EMPLOYEE HAZARD INFORMATION FORM

This form is for use by student employees who wish to provide a safety suggestion or report an unsafe workplace condition or practice.

Description of Unsafe Condition or Practice: ____________________________________________
________________________________________________________________________________
________________________________________________________________________________
________________________________________________________________________________

Causes or Other Contributing Factors: ________________________________________________
________________________________________________________________________________
________________________________________________________________________________
________________________________________________________________________________

Student Employee's Suggestions for Improving Safety: _________________________________
________________________________________________________________________________
________________________________________________________________________________

Has This Matter Been Reported to the Area Supervisor? Yes ____ No ____

____________________________________
Student Employee Name (optional)
ELEMENT 4

SELF INSPECTION
PERIODIC INSPECTION SYSTEM

Complete this form on a monthly basis. Rotate the student employees that complete the form.

- If an item complies as stated, indicate by placing a check in the "Complies" column.
- If an item does not comply but is immediately corrected, indicate by placing a check in the "Corrected" column.
- If unable to correct an item that does not comply, indicate by placing a check in the "Does not comply" column and explaining the situation on the back of the form.

Completed form should be discussed by management and kept for reference.

INSPECTION ITEM

<table>
<thead>
<tr>
<th>MILK BARN</th>
<th>Does Comply</th>
<th>Corrected</th>
<th>Does Not Comply</th>
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<tbody>
<tr>
<td>1. Equipment clean</td>
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<tr>
<td>2. Disease control practiced</td>
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<tr>
<td>3. Equipment properly wired and grounded</td>
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<td></td>
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<tr>
<td>4. Hazards of &quot;Kick Zone&quot; known</td>
<td></td>
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<td>5. Safe animal movement practiced</td>
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<td>6. Walkways clear of obstructions</td>
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<td>7. Proper protective clothing worn</td>
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<tr>
<th>HAY &amp; FEED</th>
<th>Does Comply</th>
<th>Corrected</th>
<th>Does Not Comply</th>
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<tbody>
<tr>
<td>8. Scoops, front loaders and hay booms operated properly</td>
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<tr>
<td>9. Stacking and unstacking hay done safely</td>
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<td>10. No jumping from hay stacks</td>
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<td>11. Hay hooks used properly</td>
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<tr>
<td>12. Hay bales moved safely</td>
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<tr>
<td>13. No smoking in hay barn</td>
<td></td>
<td></td>
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<tr>
<td>14. Fire extinguishers charged and available</td>
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<tr>
<td>15. Equipment stored properly</td>
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</table>
## WORK AREA SAFETY INSPECTION

<table>
<thead>
<tr>
<th>Work Area Inspected</th>
<th>Name of Inspector</th>
<th>Inspection Date</th>
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<th>Safety Hazard/Violation</th>
<th>Corrective Action</th>
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Corrective action certified by: __________________________________________

Date corrective action completed: ______________________

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<th>Safety Hazard/Violation</th>
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Corrective action certified by: __________________________________________

Date corrective action completed: ______________________

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Corrective action certified by: __________________________________________

Date corrective action completed: ______________________
ELEMENT 5

ACCIDENT INVESTIGATION
REPORTING AN INCIDENT

All incidents that result in injury, illness, first aid or doctor treatment are investigated and an incident report completed. The investigation is conducted by Rich Silacci, Dairy Manager, and a copy of the report reviewed and maintained by Ben Folker, Safety Coordinator. When hazards are identified as the primary or underlying cause, they are eliminated, following procedures addressed under Hazard Correction.

The purpose of an incident investigation is to prevent similar incidents, not to place blame. If the injured student employee or someone else contributed to the incident by failing to follow safety rules, then disciplinary action may be appropriate.

The following procedures are part of performing a successful investigation:

1. Visit the incident scene as soon as possible while facts are fresh and before witnesses forget important details.

2. If possible, interview the injured student worker at the scene of the incident and “walk” him or her through a reenactment, being careful not to create a situation that exposes the investigator to injury.

3. Conduct all interviews in private. Talk with anyone who has knowledge of the equipment or circumstances contributing to an incident, even if they did not witness it firsthand.

4. Interview witnesses one at a time and have them complete the Incident Investigation Report.

5. Document details graphically. For some incidents, you may need to preserve the scene by cordoning the area until the investigation ends; otherwise, use sketches, diagrams and photos and take measurements when appropriate.

6. Focus on both unsafe acts and unsafe conditions. Describe what, how, and why it happened. Determine the cause(s) of the incident.

7. Include a plan for preventing similar incidents in the future. Corrective actions usually involve correcting unsafe conditions, changing processes or procedures, student employee training or retraining, or a combination of the above.

The unsafe acts of persons and the unsafe conditions that cause incidents can be corrected only when they are known specifically. The incident investigation is an important method to identify hazards and to correct them. Document completion of corrective actions.
**Incident Investigation Report**

The purpose of this report is to help prevent similar incidents from recurring. Make this report as accurate and thorough as possible. Remember, always follow-up with the appropriate corrective action(s).

Incident: ☐ Near Miss ☐ Minor Injury ☐ Minor Illness ☐ Major Injury ☐ Major Illness

Incident Date: ___________________________ Time: ___________________________
AM/PM

Injured Student Employee: ______________________________________________________

Occupation: ________________________________________________________________

Months on this job: ________

**Incident Description**

Where did the incident occur?
__________________________________________________________

Witness(es)
__________________________________________________________

How did the incident occur? (What was the student employee doing when injured?)
__________________________________________________________

Describe the injury(s) or damage
__________________________________________________________

What unsafe act(s) or condition(s) contributed to the incident?
__________________________________________________________

**Corrective Actions**

What do you recommend be done (or have you done) to prevent this type of incident from recurring?
__________________________________________________________

What corrective action(s) has (have) been taken? Date: ______________________
__________________________________________________________

Investigation conducted by: ___________________________ Date: ________________

Report reviewed by: ___________________________ Date: ________________
**Student Employee Report of Injury**

The purpose of this report is to prevent similar incidents from occurring. It should be completed and signed by the injured student worker.

Incident:  □ Near Miss  □ Minor Injury  □ Minor Illness  □ Major Injury  □ Major Illness

Incident Date: ___________________________ Time: ___________________________
AM/PM

Injured Student Employee: _______________________________________________________

Occupation: ____________________________________________ Months on this job: ______

**Incident Description**

When did you report the incident and to who?

______________________________________________________________________________

Did you require medical attention?  Yes: __________  No: __________

Location of incident (entrance, loading dock, bathroom, etc.) ______________________

Witness(es)

______________________________________________________________________________

Describe in detail how the incident occurred and what you were doing when it occurred?

______________________________________________________________________________

What body part(s) were affected?

______________________________________________________________________________

What unsafe act(s) or condition(s) contributed to the incident?

______________________________________________________________________________

What is at least one thing that can be done to prevent this type of incident from recurring?

______________________________________________________________________________

Student Employee Signature: ________________________________  Date: __________
Witness Incident Report

The purpose of this report is to prevent similar incidents from occurring. Remember, we are fact finding, not fault finding. Please make this report as accurate and thorough as possible.

Witness Name: _______________________________ Time: _______________ AM/PM

Job Title/Occupation: ____________________________ Work Phone: ____________

Incident: □ Near Miss □ Minor Injury □ Minor Illness □ Major Injury □ Major Illness

Incident Date: _______________________________ Time: __________________ AM/PM

Injured Student Employee: ____________________________________________

Incident Description
Location of incident (entrance, loading dock, bathroom, etc.)________________________

__________________________________________________________________________

Describe in detail how the incident occurred and what the student employee was doing when it occurred.

__________________________________________________________________________

What unsafe act(s) or condition(s) contributed to the incident?

__________________________________________________________________________

What body part(s) were affected?

__________________________________________________________________________

What is at least one thing that can be done to prevent this type of incident from happening again?

__________________________________________________________________________

Witness Signature: _______________________________ Date: ________________
ELEMENT 6

HAZARD CORRECTION
HAZARD RECOGNITION AND CONTROL

The Cal Poly Dairy strives to have a workplace free from recognized hazards. Once hazards have been identified, make sure they are properly addressed and controlled and that you properly document the date of the corrective action.

ONGOING

Inspections

Periodic bi-monthly inspections are conducted to identify new hazards or unsafe work practices and correct them. Upon review of the periodic inspection the supervisor or safety coordinator will:

- Take immediate action to fix any unsafe condition or activity; or
- Take steps to correct unsafe conditions if they cannot be fixed in an immediate manner (such as promptly completing a work order or notifying appropriate persons).

If the supervisor identifies an imminent hazard that cannot be eliminated without endangering student employees and/or property, then all exposed student employees will be evacuated except those needed to fix the problem. Remaining student employees will use appropriate gear and other safeguards when removing hazards.

Completed inspection forms are discussed by management and kept for reference.

Preventive Maintenance

A preventive maintenance and inspection program is in place for equipment and vehicles. Appropriate actions are taken to correct hazards or deficiencies identified.

HAZARD REPORTING

All hazards reported will be analyzed and addressed. These are documented and tracked to completion.
HAZARD ABATEMENT RECORD

Safety items identified during inspection/investigation are submitted to Ben Folker, Safety Manager, for review. An action plan is developed to resolve each specific safety item (hazards, needed policies, etc.) by a set completion date and by those assigned responsibility. This form is used to document identified problems, steps to be taken, and completion deadline.

OVERALL ACTION PLAN

<table>
<thead>
<tr>
<th>Priority</th>
<th>Major Action Steps to be Taken (Assign Each Step a Number)</th>
<th>Projected Completion Date</th>
<th>Date Completed</th>
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<tbody>
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<td>1.</td>
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ELEMENT 7

TRAINING
WHY DAIRY SAFETY TRAINING IS IMPORTANT

1. Dairy farming involves long hours, hard work and requires attention to detail.
2. Productivity and efficiency are important in the dairy business; both can be affected by work injuries.
3. Each dairy and its equipment are different. If you have any questions or concerns, talk to your student managers or supervisor.
4. Your student managers and supervisor is concerned with your safety and in preventing work injuries.
5. This training program is intended to give you an overview of the hazards present on a dairy farm and the proper safety precautions to take to avoid injury.

Remember – Dairy Safety begins with you!

GENERAL SAFETY REGULATIONS

The Cal Poly Dairy strives to provide you a safe and healthful work environment and equipment. But safety begins with YOU. You are responsible to work in a safe manner and immediately report any hazards to your student managers or supervisor. Failure to follow safe work procedures or violation of safety rules will result in disciplinary action. The following list of safety rules is not a complete list. Your student managers will provide you with additional information and training as necessary and that pertains to your specific job.

1. Report all accidents to your immediate student manager or supervisor.
2. Report all unsafe or broken tools or equipment to your student manager or supervisor.
3. A major portion of the accidents that occur are caused by the "thoughtless act". Don't take chances. It isn't worth it!
4. Observe all warning signs, safety bulletins, and posters.
5. Avoid ALL horseplay and never distract another worker.
6. Use protective clothing and equipment. The employer furnishes goggles, safety glasses, guards, and other protective equipment. It is mandatory that you use it when required.
6. It is the responsibility of each employee to immediately report to a student manager or supervisor any safety hazard.

8. To lift heavy objects, squat down and keep your back straight; use the leg muscles when lifting. Do not attempt to lift any object heavier than you can handle.
9. When using sharp-edged tools, cut away from your body, otherwise a tool may slip and injure you.

10. Before starting work, tuck in loose clothing.

11. Keep the floors, aisles, and passageways clear of stock, materials, scrap, tools, oil, and equipment. You are responsible for keeping your work area clean and organized.

12. Do not undertake a job that appears to be unsafe.

13. Use caution when working around cattle.

14. Bulls can be extremely dangerous. Feed, handle, and move with caution.

15. Dairy chemicals must be stored and handled according to label.

16. Don't allow children around lagoons, chemical storage areas, or near bulls or fresh cows.

17. Make sure there is adequate light in areas where dairy activities occur at night.
SAFETY TRAINING

Indicate the topics covered with the student employee by having them sign their initials on the Employee Training Log blank line next to the topics covered at the safety meetings.

A. TOOLS AND MACHINES

1. Use only hand tools, which are safe. Worn or defective tools should always be replaced or tagged out of service until repaired.

2. Always use the correct tool for the job. THINK about doing the job the safest way.

3. Do not distract the attention of any student employee operating a machine or tool. In the event someone wishes to speak with you, discontinue your work, and stop the machine while you are talking. SAFE OPERATION OF EQUIPMENT REQUIRES CONCENTRATION.

B. EQUIPMENT AND VEHICLE SAFETY

1. Employees shall exercise safety precautions at all times while operating vehicles and equipment.

2. There shall be no smoking when fueling vehicles or when using flammable or combustible materials.

3. Smoking or open flame is prohibited within twenty-five (25) feet of fueling operations.

4. Radiator pressure shall be released by slowly loosening cap or cooling the radiator with water before the cap is completely removed.

5. Use your seat belts on the highway.

6. Check to the rear of your vehicle before backing up.

7. Vehicles shall be checked each shift/morning by the driver as to condition of fuel, tires, oil, battery, turn signals, lights, brakes and safety equipment, windshield wipers and washers.

8. Vehicles shall be adequately secured against accidental starting or movement when left unattended.
9. Keep all vehicles clean of trash and litter. All tools and equipment shall be properly guarded, stowed and securely fastened when transported with personnel.

10. Riding on equipment by unauthorized personnel is prohibited.

11. Never get in a mixer wagon while it's mixing feed.

12. PTO shields must always be in proper working order.

C. LADDERS

1. Always use a ladder with the correct type of safety feet for the surface.

2. Check the ladder for weak or damaged rails and loose or broken rungs. Do not build a makeshift ladder.

3. While climbing, or coming down, face the ladder and use both hands.

4. Stay within safe limits of balance and never shift a ladder while your weight is on it.

5. Metal ladders shall not be used when working on or near electrical equipment.

6. Ensure that your hands and the bottoms of your shoes are free from dirt and grease before climbing a ladder.

7. Wooden ladders shall not be painted or repaired if side rails or steps are broken. Discard them immediately.

8. Properly secure the ladder to the haystack and place on a level surface.

D. ELECTRICAL SAFETY

1. Take utmost precaution when working with electricity.

2. Always seek help if you are unsure of what you are doing.

3. Remember that most of the electrical switch boxes are high in voltage. Carelessness can result in death from electrical shock.

4. Electric tools shall not be operated where danger of flammable vapors, gasses and liquids exist, or where dust or water is present.

5. Electrical equipment repairs shall be made only by qualified personnel. Machines being repaired will have the electricity shutoff at the circuit box and the switch locked, so it cannot be reactivated, except by the person performing the repairs.
6. Use only properly grounded electric tools.


E. HANDLING ACIDS, CAUSTICS AND CHLORINE

Many chemicals are used on a dairy farm for cleaning and disinfecting. Most chemicals can be dangerous if not handled properly.

Alkaline soaps, acid sanitizers and iodine disinfectants are the most common. Handling acid can be safe if you have the proper respect for the material. Plan each job carefully and stick to the safe handling procedures. There is a reason for every detail of safety procedures and many times it is learned as a result of a serious injury. Don't take short cuts or experiment when working with chemicals. Here are a few simple suggestions, which are extremely important for safe handling:

1. Use all necessary protective equipment and clothing. (Gloves, aprons, boots, goggles, etc).

2. Avoid mixing of chemicals, unless you are absolutely sure of what you are doing or are supervised by someone who does.

3. An emergency eyewash should be installed in the chemical area; and student employees should know its location. Post emergency phone numbers. Know where the eyewash station is located before working with acids or caustics.

4. Remove chemicals spilled on your body as quickly as possible by flushing with large quantities of water.

5. Never use air pressure to remove chemicals from drums or other vessels.

7. Keep stoppers fastened whenever drums are moved; whether they are full or empty.

7. Vapors and fumes are deadly. There's a possibility of chronic poisoning when a fairly large amount is inhaled over a short period of time.

8. Keep chemicals away from children.

9. Use chemicals strictly for their intended purpose. Read the label and follow the instructions.

10. Keep chemicals in their original containers. Make sure they are clearly and accurately labeled.

11. Move heavy or large containers only with a forklift or a barrel truck.

12. Store chemicals in a secure area according to label instructions. Keep them close to ground level.
13. Mix chemicals only in a well ventilated area. Gases may be harmful. Use the proportions stated on the label and watch for incompatible chemicals. **KEEP ACIDS AND BASES SEPARATE.**

14. Never smell or taste a chemical to identify it. If you can’t identify it, don’t use it!

15. Do not leave chemicals unattended when using. Return them to their proper place when finished.

**F. FIRST AID MUST BE VERY PROMPT....**

1. Wash or immerse in water immediately.

2. Remove clothing.

3. If in eyes, hold eyelid open and flush with a gentle stream of clean water.

4. Get to a physician at once for all eye burns and other burns, if extensive or deep

   **AND DO ALL THESE THINGS IMMEDIATELY!!!!!!!!!!!!!!**

**G. FIRE PREVENTION**

1. Report any fire immediately to any student manager/supervisor.

2. Become familiar with the location of all fire exits and fire extinguishers. In case of fire, turn off all electrical equipment and walk quietly to the nearest exit. Follow your student manager or supervisor’s direction.

3. Do not block access to fire fighting equipment or fire exits.

4. Fire sprinklers must never be blocked.

**H. HANDLING CATTLE SAFELY**

1. Always stand or walk to the animal’s side, so it can see you.

2. Animals are territorial, extremely sensitive to noise and may be easily frightened.

3. Turn the animal by walking slowly toward its shoulder with your arm outstretched. As your hand passes the animal’s nose, the animal will turn.

4. Avoid being caught between the animal and a fixed object. You could be crushed.

5. Cattle must always be properly restrained before AI or any management procedure. Use
squeeze chutes when appropriate.

6. Use extreme caution around bulls and fresh cows.

7. Aggressive bulls, utilized as cleanup bulls, must be reported to the herdsman and isolated.

8. Never approach a cow from her blind zone without proper warning.


10. Use caution when working with cattle in the milking parlor. A calm environment will reduce accidents.

11. Always make sure to be aware of the parlor sides and crowd gate when moving cattle in and out of the parlor.

12. When working in the parlor, keep your hands off all buttons until you have made sure that all cows are completely out of the way.

I. HANDLING DAMS AND CALVES SAFELY

Cows are unpredictable during and immediately after labor. Treat them with caution.

1. When assisting with calving, properly restrain the cow with a halter tie or in a locking stanchion.

2. If using pulling chains or ropes, never wrap them around your wrist or waist; you could be dragged.


4. Do not move between a dam and her newborn calf. When separating them, be cautious and deliberate.

J. HANDLING YOUNG CALVES

Between birth and 24 months, a calf may have the following procedures performed:

- Vaccination
- Dehorning
- Tagging
- Excess Teat Removal

1. Always restrain the animal to protect it and yourself.
2. Use available locking stanchions and squeeze chutes.

3. Be gentle but firm with the calf.

K. ARTIFICIAL INSEMINATION SAFETY

*Liquid nitrogen used to store semen can cause skin burns or eye injury; be careful!*

1. Use tweezers to remove straws of semen from the nitrogen tank.
2. Wear eye protection when working with glass ampoules.
3. Keep and work with the nitrogen tank at ground level.
4. When moving the tank with a vehicle, fasten it securely to the vehicle.
5. Restrain cows to be inseminated; use correct approach and insertion techniques.

L. HANDLING BULLS SAFELY

*Bulls are common on dairies, for use with problem breeders or for cleanup, but here at Cal Poly they are used specifically for educational instruction.*

1. Bulls can be aggressive and should be considered as dangerous. Post warning signs in areas where bulls are kept.
2. Bulls can get aggressive with age. After two years of age, watch for aggressive behavior such as bellering or pawing. Isolate and/or replace aggressive bulls.
3. Nose rings at an early age offers the best control. Minimize bull handling by keeping bulls in a separate pasture and bringing the cows to them.
4. Make sure pass-throughs are kept clear, and restrict access to bull pens to knowledgeable people.
5. Never trust a bull and never turn your back to one.

M. MILKING PARLOR SAFETY

*Milking barns are a place of routine but safety hazards can develop. Inspect the barn regularly to detect and correct hazards.*

1. Maintain the grounds on electrical equipment to prevent stray voltage.
2. Beware of cows with anxious or odd behavior.

3. Milking machines with automatic detachers can swing away from the cow and into the milker. Be cautious!

4. Slippery floors can develop from back flush. Wear boots with non-slip soles and remove excess water from floors.

5. Warm up at the beginning of your shift. Stretch frequently to avoid fatigue.

N. FEEDING LIVESTOCK SAFELY

*Although routine and straightforward, carelessness during feeding can invite serious injury.*

1. Store feed in lightly traveled and well-lighted areas.

2. Stack baled feed properly on a firm and level surface.

3. Use a well-maintained ladder resting on solid ground to climb stacks. Tie the ladder off at the top, if possible.

4. Be aware of others when dropping bales from stacks. Drop bales horizontally to avoid bounce. Use broken bales first.

5. After use, store pitchforks and hayhooks safely away.

O. FEED MIXERS AND LOADERS

*Farm equipment and machinery can create serious potential for injury.*

1. Know the safe and proper operation of all equipment to be used. If in doubt, ask your student manager or supervisor before you start the equipment.

2. Operate all equipment at safe speeds.

3. Never allow a passenger to ride any equipment not designed by the manufacturer for more than one person.

4. Keep front-end loaders balanced when moving and the bucket no higher than necessary to clear objects.

5. Help keep your dairy’s tractors and equipment in good condition. Keep all guards in place and report any malfunctions or safety problems to your student manager or supervisor.

P. FACILITY SAFETY
The general farm area can host a variety of hazards.

1. Stacking silage higher than 20 feet invites collapse.

2. Wastewater lagoons should be properly fenced to keep people and cattle out.

3. Good drainage is critical. Keep all concrete lanes and walkways free from standing water to prevent slippery algae growth.

4. Ensure that concrete structures are in good repair, walkways are not slippery, and drain covers are in place.

5. Maintain fences, barns, and equipment in good condition. Maintenance and safety can increase productivity.
EMPLOYEE TRAINING LOG

All of the rules indicated below were explained to me, I fully understand them, and agree to abide by them while working for The Cal Poly Dairy. Have the student employee sign their initials in the blank next to the safety rules covered with them.

General Safety Regulations

_______  A. Tools and Machines
_______  B. Equipment and Vehicle Safety
_______  C. Ladders
_______  D. Electrical Safety
_______  E. Handling Acids, Caustics and Chlorine
_______  F. Fire prevention
_______  G. Working with cattle

______________________  _______________
Student Employee's Signature                          Date

______________________  _______________
Supervisor's Signature                          Date
FARM ANIMAL SAFETY

KEY POINTS:

ALWAYS Consider animals' temperament, habits, and handling characteristics.

ALWAYS Keep working areas clean and equipment in proper repair.

ALWAYS Wear personal protective equipment when appropriate such as: rubber boots, gloves, and safety glasses.

ALWAYS Keep children and unauthorized persons out of dangerous areas.

ALWAYS Treat each animal as an unpredictable individual.

ALWAYS Let the animal know you are approaching.

NEVER Threaten or tease a bull.

NEVER Handle an animal if you have not been trained of the dangers, which exist.

All of the rules indicated above were explained to me. I fully understand them and agree to abide by them while working for the Cal Poly Dairy.

___________________________________
Student Employee Signature  Date

__________________________________________
Supervisor Signature  Date
BACK INJURY AVOIDANCE FOR THE AGRICULTURAL WORKER

KEY POINTS:

ALWAYS Lift the hitching tongue with your legs, not your back.
ALWAYS Get help when moving heavy items or equipment.
ALWAYS Limit the weight of the load to be lifted.
ALWAYS Mount/dismount all equipment carefully.
NEVER Twist your back or body while carrying a load.
NEVER Reach or extend yourself to lift an object.
NEVER Jump off a tractor after sitting for a long period of time.

All of the rules indicated above were explained to me. I fully understand them and agree to abide by them while working for the Cal Poly Dairy.

____________________________________
Student Employee Signature   Date

____________________________________
Supervisor Signature   Date
LADDER SAFETY

KEY POINTS:

ALWAYS Inspect the ladder to make certain it is in good working condition. Report broken ladders to your student managers or supervisor.

ALWAYS Make certain the ladder is secure on even, solid ground.

ALWAYS Face the ladder when climbing or descending it.

ALWAYS Stay within safe limits of balance and never shift a ladder while your weight is still on it.

ALWAYS Ensure that your hands and the bottom of your feet are free from dirt and grease before climbing the ladder.

ALWAYS Keep both feet on the ladder at all times.

NEVER Jump from the ladder.

NEVER Climb past the third rung from the top of the ladder.

NEVER Support the ladder on tree branches.

NEVER Place a metal ladder where it can come within ten (10) feet of a high voltage line.

NEVER Over reach, push, or pull the ladder while working from it.

All of the rules indicated above were explained to me. I fully understand them and agree to abide by them while working for the Cal Poly Dairy.

______________________________________________
Student Employee Signature        Date

______________________________________________
Supervisor Signature               Date
AGRICULTURAL TRACTOR SAFETY

KEY POINTS:

ALWAYS Use seat belts on tractors that have rollover protection system (ROP).

ALWAYS Carry a first aid kit and dry chemical extinguisher on the tractor.

ALWAYS Use extra care when driving up an incline.

ALWAYS Balance your load, including the weight of the load on the trailer.

ALWAYS Reduce speed before turning.

ALWAYS Stop the engine before getting off the tractor.

ALWAYS Keep the tractor in gear when going downhill.

ALWAYS Lock brake pedals together when traveling on roads and unlock them when working a field.

NEVER Allow riders. Tractors are designed to carry only one person, "the operator".

NEVER Hitch chains or implement tongues to the axle or other high points of the tractor.

NEVER Start a tractor by shorting across starter and solenoid terminals.

NEVER Start a tractor while standing on ground. Start tractor only from operator's seat, with transmission in neutral or park.

NEVER Attach a post or log to rear wheels when a tractor is stuck in the mud.

All of the rules indicated above were explained to me. I fully understand them and agree to abide by them while working for the Cal Poly Dairy.

________________________________________
Employee Signature    Date

________________________________________
Supervisor Signature    Date
SAFETY COMMUNICATIONS

The Cal Poly Dairy is committed to providing its student employees or staff with effective communication that will give its student employees the necessary information to perform their duties and tasks in a safe and healthful manner. We are committed to open two-way communication between management and student employees, in a form readily understandable by student employees, and have adopted the following methods of communication:

SAFETY MEETINGS

Safety meetings are in the workplace to review each element of the Safety Program and to discuss safe work procedures. The Safety Program is available for student employee review at all times. Types of safety meetings conducted include:

- **New Student Employee:** New student employees will be provided with safety training prior to beginning work. The purpose is to inform new student employees of existing and new safety policies, equipment and procedures. The company safety manual will also be discussed in order to provide further clarification of its contents.

- **One-on-one:** These meetings are held as communication sessions between a student employee and his/her student manager or supervisor. Their purpose is for individual clarification or reminders of particular safety issues and hazards.

- **Other:** Student managers or supervisors are given the responsibility of holding scheduled quarterly meetings to address any safety issue or topic relevant to the operation or tasks.
SAFETY MEETING LOG

Date __________________

Name of Trainer _____________________________________________________

Subject(s) Covered __________________________________________________________
________________________________________________________________________

Training Aids Used ___________________________________________________________________________
________________________________________________________________________

Work Location ___________________________________________________________________________________

Attendees (Please print and sign your name legibly.)
Print ___________________________ Signature _____________________________
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ELEMENT 8

RECORDKEEPING
RECORD KEEPING

Records of hazard assessment inspections, including the name(s) of persons conducting the inspections, the unsafe work practices and conditions that have been identified and the action taken to correct the unsafe work practices and conditions, are recorded on a hazard assessment and correction form.

Documentation of safety and health training for each student employee, including the student employee’s name, training dates, type(s) of training, and training providers, are recorded on a student employee training and instruction form.

Records of accident investigations conducted at our dairy will be kept on forms.

Inspection records, accident investigation records and training reports will be maintained for one year, except for training records of employees who have worked for less than one year which are provided to the employee upon termination of employment.
Receipt of Safety Program

I certify that I have received my personal copy of the Cal Poly Dairy Safety Program.

I further certify that I have read, and understand the Cal Poly Dairy policies and procedures as represented in the company's Safety Program.

I understand that failure to comply with all safety policies may result in immediate discharge.

STUDENT EMPLOYEE NAME: (Print) ________________________________

STUDENT EMPLOYEE SIGNATURE: ________________________________

DATE: ____________