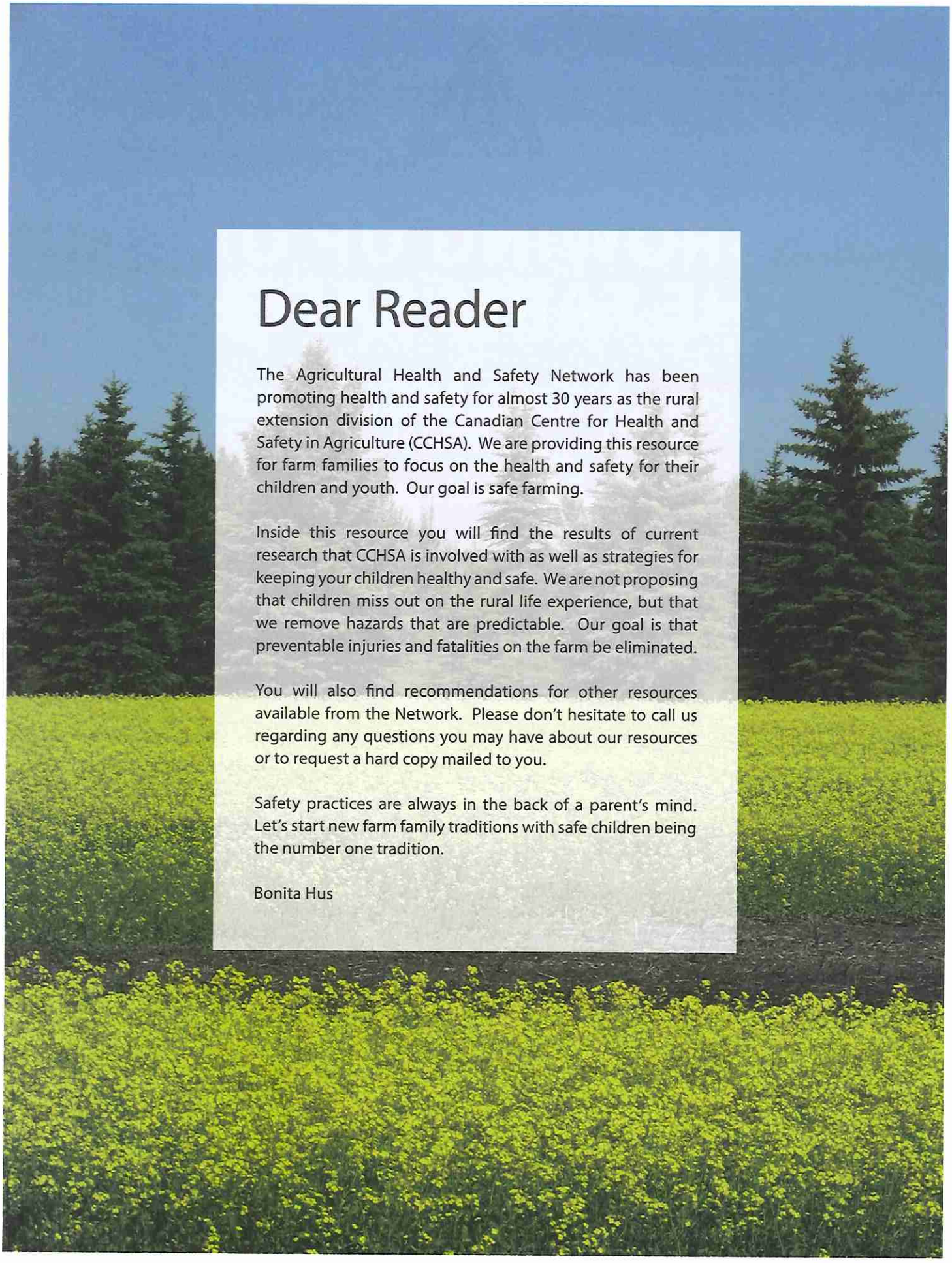
THE AGRICULTURAL HEALTH & SAFETY NETWORK

GROWING UP ON THE FARM SAFELY

CARING ABOUT FARM FAMILIES AND THEIR FUTURE

CCHSA
Canadian Centre for Health and Safety in Agriculture

CCSSMA
Centre canadian de santé et sécurité en milieu agricole



Dear Reader

The Agricultural Health and Safety Network has been promoting health and safety for almost 30 years as the rural extension division of the Canadian Centre for Health and Safety in Agriculture (CCHSA). We are providing this resource for farm families to focus on the health and safety for their children and youth. Our goal is safe farming.

Inside this resource you will find the results of current research that CCHSA is involved with as well as strategies for keeping your children healthy and safe. We are not proposing that children miss out on the rural life experience, but that we remove hazards that are predictable. Our goal is that preventable injuries and fatalities on the farm be eliminated.

You will also find recommendations for other resources available from the Network. Please don't hesitate to call us regarding any questions you may have about our resources or to request a hard copy mailed to you.

Safety practices are always in the back of a parent's mind. Let's start new farm family traditions with safe children being the number one tradition.

Bonita Hus

CCHSA CCSSMA
Canadian Centre for Health and Safety in Agriculture
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The Canadian Centre for Health and Safety in Agriculture (CCHSA)

The mission statement of CCHSA is:

"to conduct and stimulate research, education, and health promotion programs aimed at enhancing the health and well-being of agricultural, rural and remote populations."

The studies that are discussed in this resource build on what researchers from across Canada and internationally have been finding.

Current research examines the links and causes of health and injury of children on Saskatchewan farms. The results of these studies are published in peer reviewed medical journals and presented at national and international conferences. Our extension division brings these findings to you in this resource.

The Agricultural Health and Safety Network (The Network) is the link between research and the agricultural and rural community.

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BACKGROUND INFORMATION

- Asthma is a disease that may result in restriction of physical activity and a greater number of school sick days.
- Children with asthma can experience a lower quality of life.
- A large proportion of health care utilization including hospitalization, emergency room visits, and medication use is due to childhood asthma.
- Asthma is complex with many risk factors including genetic and environmental factors
- Personal factors such as the presence of allergies and parental history of asthma are among the strongest predictors of asthma.
- There is less reported asthma in rural regions, although the reason is unknown. It is thought that exposure to livestock, consumption of farm milk, and a variety of exposures on the farm in early life may protect young children from asthma.
- However, if a child has asthma, the severity of it can increase with farm exposures, highlighting the complexity of asthma.

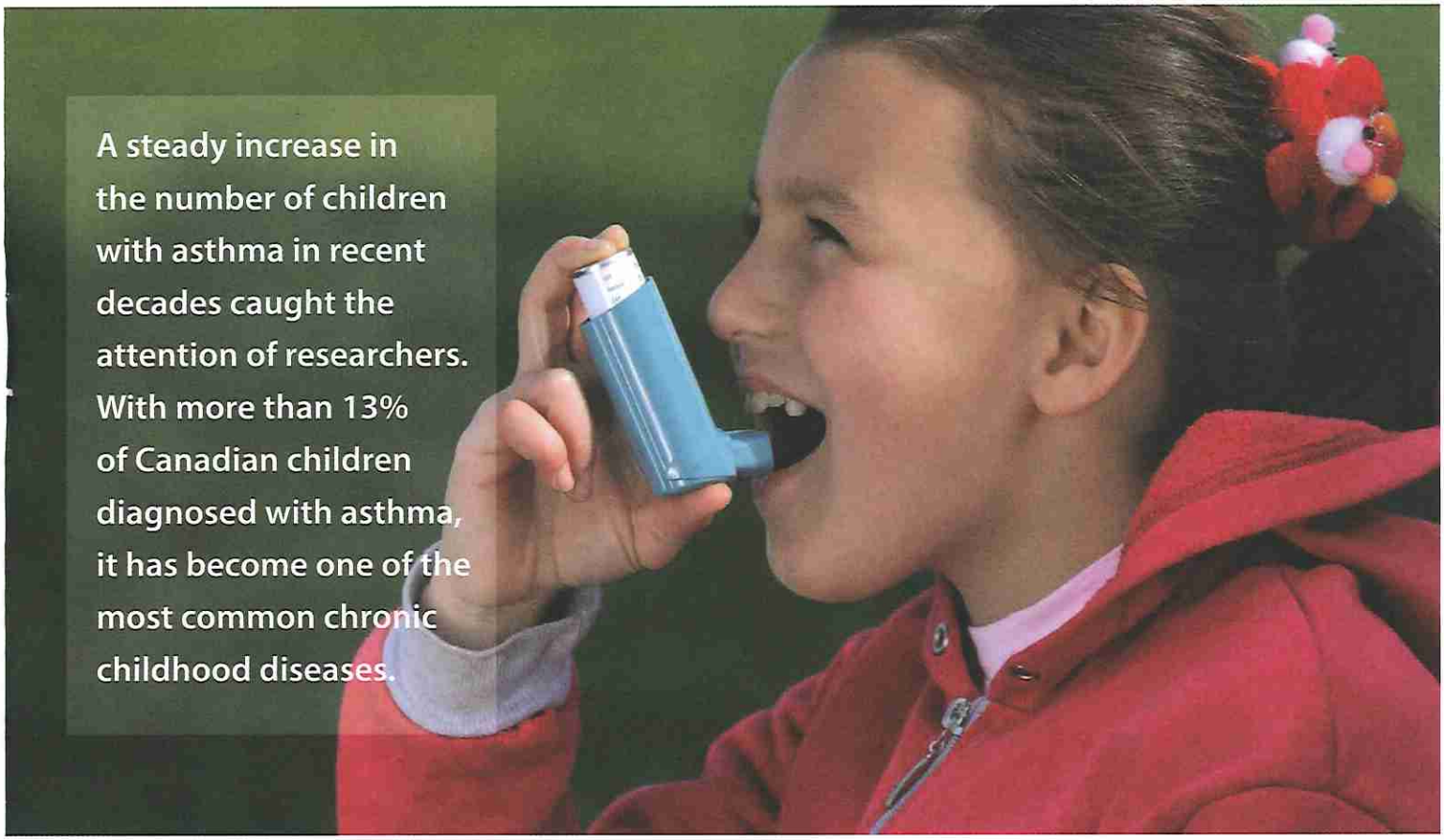
ASTHMA STUDIES

There has been a long and successful history of lung health research in Saskatchewan with the agricultural and rural community. Most recently, we have been looking at childhood health in rural areas, since living in a rural area comes with complexity regarding health care access, unique environmental exposures, and lifestyle differences when compared to an urban center. At present, we have several research programs being completed in rural Saskatchewan with a focus on childhood lung health, more specifically, asthma.

The first study is the Saskatchewan Rural Health Study. This study, which began in 2010, focused on rural dwelling families in four rural regions from across the southern and central part of the province and included over 2500 children. Initially, mail surveys were completed along with clinical testing including lung function testing and skin prick testing. This work was repeated again with those who originally took part after a three year follow-up.

A second cross-province study is underway looking at differences in Asthma between large urban (Regina), small urban (Prince Albert), rural non-farm dwelling, and farm dwelling children including just over 3500 children. Overall, we are finding that when compared to urban centers, rural dwellers have a lower prevalence of asthma although we do not see differences between farm and non-farm dwelling children. Despite this, we find that rural children still have a high prevalence of asthma (close to 15%). In addition to this, we have found in our studies that some exposures, which occur more frequently among farm dwellers, actually worsen childhood asthma.

As we continue these research programs, we are examining what the specific exposures are in farm environments that trigger asthma symptoms or protect children from asthma. We are also taking a closer look at how asthma is diagnosed and managed in rural areas. It is our hope that as we investigate these things, we will better understand what causes childhood asthma and also be able to better treat it.



A steady increase in the number of children with asthma in recent decades caught the attention of researchers. With more than 13% of Canadian children diagnosed with asthma, it has become one of the most common chronic childhood diseases.

ASSOCIATIONS BETWEEN ENDOTOXIN AND ASTHMA

Endotoxin is a part of certain bacteria. Recent studies show:

- There are higher levels of endotoxin found in farming environments.
- Among school age children with asthma or wheeze, exposure to endotoxin may make asthma symptoms worse.
- Children who are atopic and have asthma and are exposed to high endotoxin levels in the home are more likely to be kept home from school with a chest illness.

It may be important for children with asthma or wheeze to avoid higher endotoxin exposures commonly found in barns, pens and livestock areas.

PREVENTING ASTHMA EPISODES

- Identify and avoid your child's triggers.
- Wash your child's sheets and blankets weekly in hot water to remove bacteria, dust mites and allergens.
- If your child has a breathing problem like asthma it may help to enclose the mattress to prevent mold and dust mite growth.
- Use dust mite impermeable mattress covers.

ENVIRONMENTAL RISK FACTORS FOR ASTHMA

- High moisture in homes
- Exposure to second-hand smoke

IF YOUR CHILD HAS ASTHMA:

Keep an action plan, and be sure to know the following:

- How and when to start increasing medication
- How to assess if your plan is working
- Know your land location in the case of an emergency

WHAT IS ASTHMA?

THE LUNG ASSOCIATION™ Saskatchewan

The following is adapted from the Asthma Handbook from the Lung Association.

Asthma affects almost 3 million people in Canada. It is a chronic disease that makes it difficult to breath. Asthma severity can differ among people ranging from mild to severe and in rare cases, asthma can be fatal.

Asthma Symptoms

One or more of the following symptoms can indicate asthma:

- Wheezing
- Chest tightness
- Coughing
- Shortness of breath

If you suspect that your child may have asthma, see your family physician

Second-hand Smoke and Asthma

Second hand smoke is harmful to everyone's lungs. However, for people with asthma second-hand smoke may cause:

- An increase in breathing problems
- A need for more medication
- More visits to the emergency room

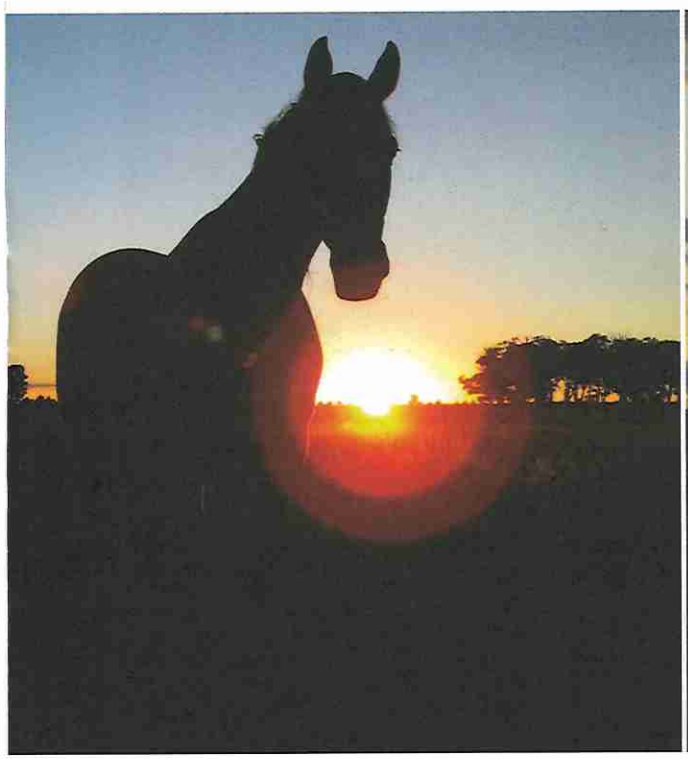
Allergies

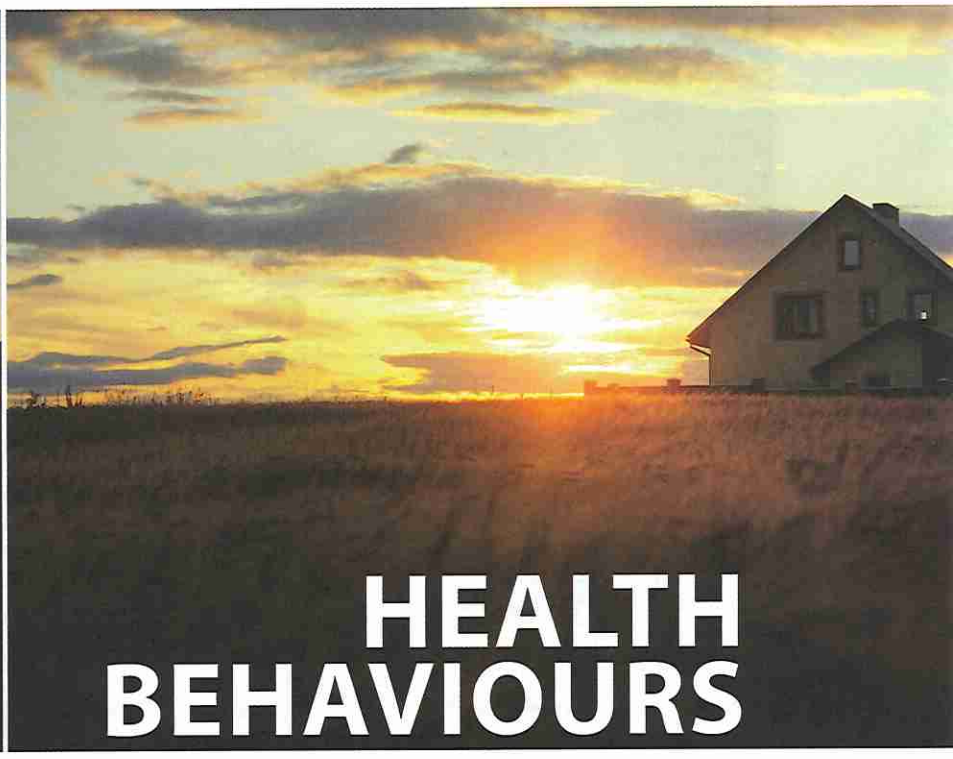
When a child has allergies, exposure to allergens can make your child's asthma worse. Avoid known allergens as much as possible and see your doctor if you suspect there are allergies not yet known to you.

Managing Asthma

See your doctor and have an asthma action plan. Use this plan to keep your child's asthma under control.

www.sk.lung.ca





HEALTH BEHAVIOURS

SLEEP & CHILDREN

Sleep plays a critical role in the health and safety of children and youth. Inadequate sleep may result in poor cognitive functioning, impaired judgement, inattention, and compromised decision making. A study that looked at sleep patterns and injury occurrence found a nearly 5-fold increase in risk of injury among school-age children reporting sleep problems. These sleep problems included short sleep duration on weekdays, sleep deprivation, and snoring. Snoring in 13-18 year olds was associated with increased injury risk. There was a significant trend of decreasing sleep time with increasing age.

School aged children can learn about healthy sleep environments. This is a lifelong skill that they will thank you for some day.

- The bedroom should be dark, cool and quiet for sleep.
- TV and computers should not be in the child's bedroom.
- Avoid caffeinated beverages. Chocolate also has caffeine in it.
- Consider incorporating an evening bath and story time into your child's routine.
- Avoid vigorous activity right before bed.

BEDTIME ROUTINE FOR CHILDREN:

Often we are better at getting our children into good sleep routines than we are with ourselves. Take the time to get into the habit of a bedtime routine for you and your children, keeping in mind that each family is different. Take a look at the following sample bedtime routine.

- Have a light snack
- Take a bath
- Get into pajamas
- Brush teeth
- Share a story
- Get into bed
- Good Night!

At different ages, children require varying amounts of sleep. Their bodies are doing a tremendous amount of growing and changing and although they sometimes wish to fight bedtime rituals and times, they need their sleep.

For more information on sleep for the farming family: See the Sleepless in Saskatchewan resource. It is available on our website or by calling (306) 966-6644.

RURAL CHILDREN AND OBESITY

An interesting research finding showed that parents' perceptions of their children's overweight status was inaccurate. Parents of overweight children classified their children as "about the right weight" 71% of the time.

Being overweight and having a larger waist circumference were significantly associated with asthma. Other studies have associated being overweight with other health problems such as type 2 diabetes, high blood pressure, and trouble sleeping.

Nutrition is a very important part of your child's growth and development. Even if fresh fruits and vegetables are difficult to keep in hand especially at certain times of the year, frozen alternatives can provide the right nutrition. *The Canada Food Guide* is a great nutritional guide available. It demonstrates portion sizes for different types of food and healthy snacks.

Get your copy here: healthycanadians.gc.ca

You can also find My Food Guide on this site and customize a food guide just for you.

EXERCISE

Create a lifelong skill by being active with your children. Growing up active will increase the likelihood that exercise will become part of their lives.

The *Canadian Centre for Exercise Physiology* has a guideline for children and exercise.

Toddlers and preschoolers should have three hours of activity per day in a variety of environments that promote physical development.

Children over 5 years of age should have 60 minutes of moderate to vigorously intense activity per day.

For more exercise information and activity logs, go to http://www.csep.ca/en/guidelines/read-the-guidelines

THE SASKATCHEWAN FARM INJURY PROJECT

"Children on farms and in rural communities have special sets of circumstances that leave them vulnerable to injury and illness, yet they also have other exposures that help them to thrive. Through our research, we are interested in learning more about these factors to help rural families to understand more about the health of their children."

Will Pickett, PhD

The farm is unique as an industrial workplace in that people often both live and work at the worksite. The Saskatchewan Farm Injury Project was undertaken with the long term goal of informing the development of targeted interventions aimed at reducing the number and severity of farm-related injuries. Phase I was conducted from 2005-2010 with the purpose of exploring the relationships between farm injury outcomes and individual exposures of risks along with examining the settings in which farm people work and live that may influence any associated risks. At baseline, 2,390 farms from 50 rural municipalities joined the study and 2,043 of these same farms also participated in the follow-up study for two years afterward.

Phase II of this project then began in 2011 and is currently underway until its completion in 2016. Phase II has the same ultimate goal as Phase I, with a particular focus on the experiences of vulnerable populations, along with examination of additional determinants of injury and health in agricultural populations that were inferred from Phase I analyses. Phase II also established a new cohort of farm and non-farm rural children where the baseline study was conducted through participating rural schools. 47 rural Saskatchewan schools participated and there are 2,328 rural farming and non-farming children and youth enrolled in the study. A two-year follow-up study is in progress to track their injury experience.

For all study results to date please visit the study website at: **cchsa-ccssma.usask.ca/skfarminjuryproject/**

CANADIAN AGRICULTURAL INJURY REPORTING (CAIR)

CAIR is a national program led by volunteers established in 1995 with funding from the Canadian Agricultural Safety Association (CASA) through Growing Forward 2, a Federal, Provincial, and Territorial initiative. Its purpose is to provide a comprehensive accounting of fatal and hospitalized agricultural injuries in Canada. CCHSA represents Saskatchewan provincially on this initiative.

CAIR defines an agricultural fatality as: "1) Any unintentional injury resulting in death that occurs during activities related to the operation of a farm or ranch in Canada and/or 2) any unintentional injury resulting in death that involves any hazard of a farm or ranch environment in Canada (excluding fatal non work-related injuries that take place in the farm residence)." The statistics cannot possibly tell us the devastation a child death has on a family. Understanding how they occur will help us prevent them in the future.

Visit the CAIR website for more information: **cair-sbac.ca**

THE STATISTICS CANNOT POSSIBLY TELL US THE DEVASTATION A CHILD DEATH HAS ON A FAMILY.

272 Farm child deaths were reported in Canada from 1990-2011	**64%** of agricultural fatalities in children were machine related.
8 Annual average number of children 15 years old or younger killed per year.	**72%** of the children and youth killed were the children of the farm operator. 81% were males.

Pediatric Farm Injuries

Restriction of children's access to farming worksites is essential to prevent serious injury. Evidence supports that even when children are adequately supervised by adults in the farming workplace, serious injuries and deaths occur. *Proximity of a child to a parent involved in farm work is associated with an increased chance of incident rather than a decreased chance of incident.* In other words, when serious incidents happened, parents were often close by.

Although inadequate supervision is common in regards to child farm injuries, even in situations where traditionally adequate supervision is present, injuries and fatalities still occur. Adequate supervision is traditionally defined as *continuous attention, proximity, and continuity.*

New standards for defining adequate adult supervision in the agricultural workplace and restriction of child access to this dangerous environment needs to be developed.

Children change their behavior without warning and must be kept out of highly hazardous environments. The only way to prevent serious injuries is by restricting access to the workplace and ensuring they have appropriate supervision elsewhere, in a safe environment.

Reducing injury risks for older children involves reducing their exposure to hazardous situations. This may involve changing their tasks and chores to decrease the risk of exposure to hazards.

NO RIDERS

FATAL AND HOSPITALIZED PEDIATRIC AGRICULTURAL INJURIES

Allowing riders on farm equipment is dangerous. Staying away from dangerous work areas and equipment must be strictly enforced.

Statistically, when compared with children from the general population, children who live on farms are at risk for:

- higher rates of premature death
- higher injury-related morbidity
- more disability due to injury
- higher associated healthcare costs

Simply being exposed to the farm worksite places preschoolers and other young children at a significant risk for injury. This happens most often during the peak times of busy fieldwork and warm weather months.

THE TOP MECHANISMS OF INJURY ARE:

- machine-related entanglements
- falls from heights
- animal-related injuries
- being struck by or against an object

Children under five years of age are at the greatest risk for fatalities. The majority of deaths were machine-related with the leading mechanisms of injury being

- machine rollovers
- machine run overs
- drownings

Bystanding near the following hazards are identified as risk factors for injury:

- field and barnyards
- farm machinery in use, and being stored
- water hazards
- animals

MACHINE INCIDENTS ARE THE LEADING CAUSE OF CHILD FATALITIES ON FARMS

Moving or flowing grain can bury someone in a few seconds. Rescue is unlikely. Keep children safely away from moving grain during loading and unloading and ensure that they cannot get into grain bins.

SAFELY INVOLVING CHILDREN IN CHORES

SETTING RULES

- Regularly set aside safety talk time.
- Anticipate that your children will forget or disobey you.
- Plan to remind them regularly of the safety rules, as well as the hazards associated with a task.
- One seat – One rider.
- The best thing you can do is be a good example. Follow your own safety rules.
- Question the task and ask yourself: Is it safe for my child to do?

Unintentional injuries can happen when parents and children underestimate the risk and hazards associated with a task and mistake age and size for ability. The North American Guidelines for Children's Agricultural Tasks (NAGCAT) was developed at the request of members of the farm community.

The basis for these guidelines is to provide parents with a tool that will assist them in assigning safe farm jobs to children 7 to 16 years old. Children can be assessed from a physical and developmental perspective using NAGCAT recommendations for supervision required.

For the NAGCAT guidelines go to: www.nagcat.com/nagcat/

DESIGNATED PLAY AREAS

The best way to keep youngsters safe is to create a safe play area.

1. Select a location that is removed from the farm activity. Preferably it will be adjacent to or in close proximity to the house. Ensure the location is sheltered from wind, free of pests (ants, snakes, rodents, etc.) and free of hazardous plants.
2. Surround the play area with a child protective fence and self-latching gate. Ensure it is sturdy, easy to maintain and a minimum height of 4 feet.
3. Choose play equipment. Quality play equipment does not have to be expensive. Choose balls, sandboxes or tree swings. Remember all structures that can be climbed should be positioned at least six feet from fencing or other equipment.
4. Use protective ground cover such as sand to absorb the shock of falls under play equipment with elevated surfaces such as slides, monkey bars, and swings.

Designing a safe play area for young children on the farm can be challenging. For a resource on creating Safe Play Spaces go to: National Children's Centre for Rural Safety and Health:

http://www3.marshfieldclinic.org/proxy/MCRF-Centers-NFMC-NCCRAHS-resources-SafePlayBooklet2012.1.pdf

ADOLESCENT WORKERS

In Canada, from 1990 to 2008, 300 youth and young adults aged 10 to 29 years died of agricultural injuries. Youth and young adults suffer from a heavy burden of agriculture injury. In Saskatchewan, 15-19 year olds were found to be at a significantly increased risk of hospitalized injury.

Activities that were significantly associated with increased rates of agricultural injury at high levels of exposure are:

- Tractor maintenance
- Tractor operation
- Routine chores with large animals
- Herd maintenance activities
- Veterinary activities were significantly associated with increased rates of agricultural injury at high levels of exposure

OTHER FACTORS FOUND TO BE RELATED TO INJURY ARE:

- More hours worked on the farm per week increased the risk of injury.
- The amount of time spent operating tractors, maintaining tractors, and working with large animals was related to an increased risk of injury.
- Gender was related to farm work, with males reporting more work hours worked on the farm, more days of exposure to herd maintenance activities, and more exposure to mechanized tasks: operating and maintaining tractors and all-terrain vehicle (ATV) use.

TRAINING TEENS

Many teens are operating older equipment without safety features, placing them at risk. Teens are at greater risk when exposed to work hazards such as tractors without ROPS, old machinery and working at heights. The tractor a teen operates must be equipped with ROPS.

Here are some things to consider when you are working with teens:

- Limit cell phone use to breaks and emergency communication.
- Consider your teen's developmental stage. They may not be ready for some tasks.
- Adopt a zero tolerance for alcohol use. Don't allow a teen to work with a hangover.
- Make sure they have all the Personal Protective Equipment necessary for each task.
- Ensure that you provide training for each task and discuss potential hazards.

MAKE SURE THAT YOU ARE A GOOD EXAMPLE OF YOUR OWN RULES.

Training Procedures
Even more experienced workers may need an update on your current safety procedures. Involve all new workers in your Farm Safety Plan. Remember to use positive feedback to encourage continued safe work practices, and make it clear that their questions are welcome. Here are the basics for training young and new workers:

- Explain how the task is to be performed
- Point out the hazards
- Demonstrate the correct procedure
- Make sure the new worker can perform the task correctly and safely prior to allowing them to work alone
- Check in on the new worker frequently

PPE FOR YOUNG WORKERS

Your young workers need to be protected. Personal protective equipment isn't one size fits all. Dust masks, hearing and eye protection, coveralls, good footwear, hard hats, and gloves: Make sure it all fits properly. Sun protection is important for the whole family. This all applies to you too! Child and youth safety is an adult responsibility.

LONG WORK HOURS

Consequences of long working hours can be substantial in agricultural settings because the physical environment is inherently dangerous, and an error in adult judgement can lead to serious injuries to children on farms.

The effects of long work hours put in by parents influence the health of their young children. When parents work long hours children and youth are more likely to be exposed to hazards on the farm. Too often, tired and over-worked adults make choices that put their children and youth at risk.

Children continue to be exposed to increased hazards by parents choosing to keep their children with them while they are coping with long work hours and while both the owner/operator and spouse are both working long hours.

Teen workers are more frequently exposed to hazardous farm work when the owner-operator reports excessive hours, and they are often assigned to work on tractors without ROPS as well as older equipment and work at heights.

Family Farm Safety Strategy

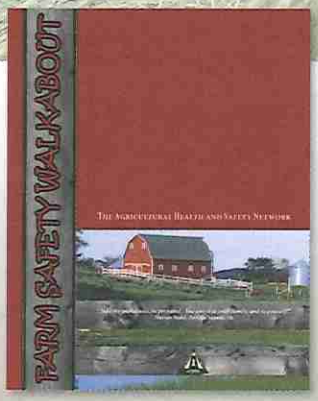
IS IT TIME TO START BUILDING ONE?

Because each farm location is unique and has its own set of hazards, the rules need to be different for each farm although certain principles can be followed.

Safety must become a habit. You must be the safety example for your family. If they see you performing safe practices, they will grow up following your example.

Start by doing your own safety audit available on our website or by calling the Network office. Identify any hazards and set a date for fixing the hazard.

Do the Farm Safety Walkabout with your family also available on our website or by calling the Network office. You will be spending some quality time discussing some very important topics regarding safety for all age groups. These activities do not replace supervision. Remember that toddlers are escape artists and need constant supervision in a safe play area. Always be firm about the rules. It could mean the difference between life and death.

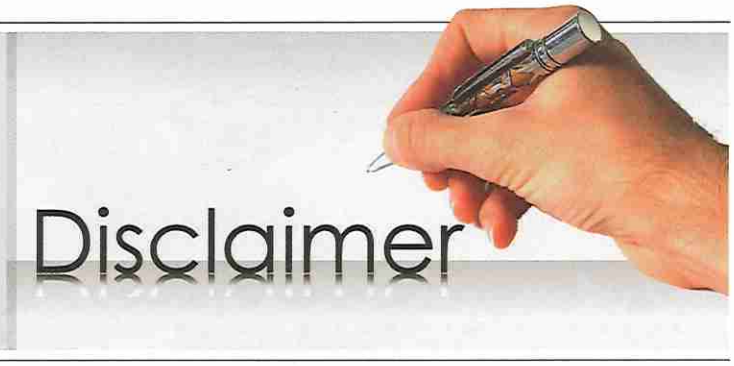


agsafety.usask.ca

CASA·ACSA
Canadian Agricultural Safety Association
Association canadienne de sécurité agricole

Canada FarmSafe Plan is a national safety and health plan for farmers. The Canadian Agricultural Safety Association (CASA) is investing in communities, developing tools, and supporting training to help make farming safer. You can help us build a Canada where no one is hurt farming. You can download the core Canada FarmSafe Plan at no charge. Check it out at: casa-acsa.ca/CanadaFarmSafePlan

Information provided in this booklet is general in content and should not be seen as a substitute for professional medical advice. Concerns over asthma, and agricultural related exposures should be discussed with your doctor.



Disclaimer

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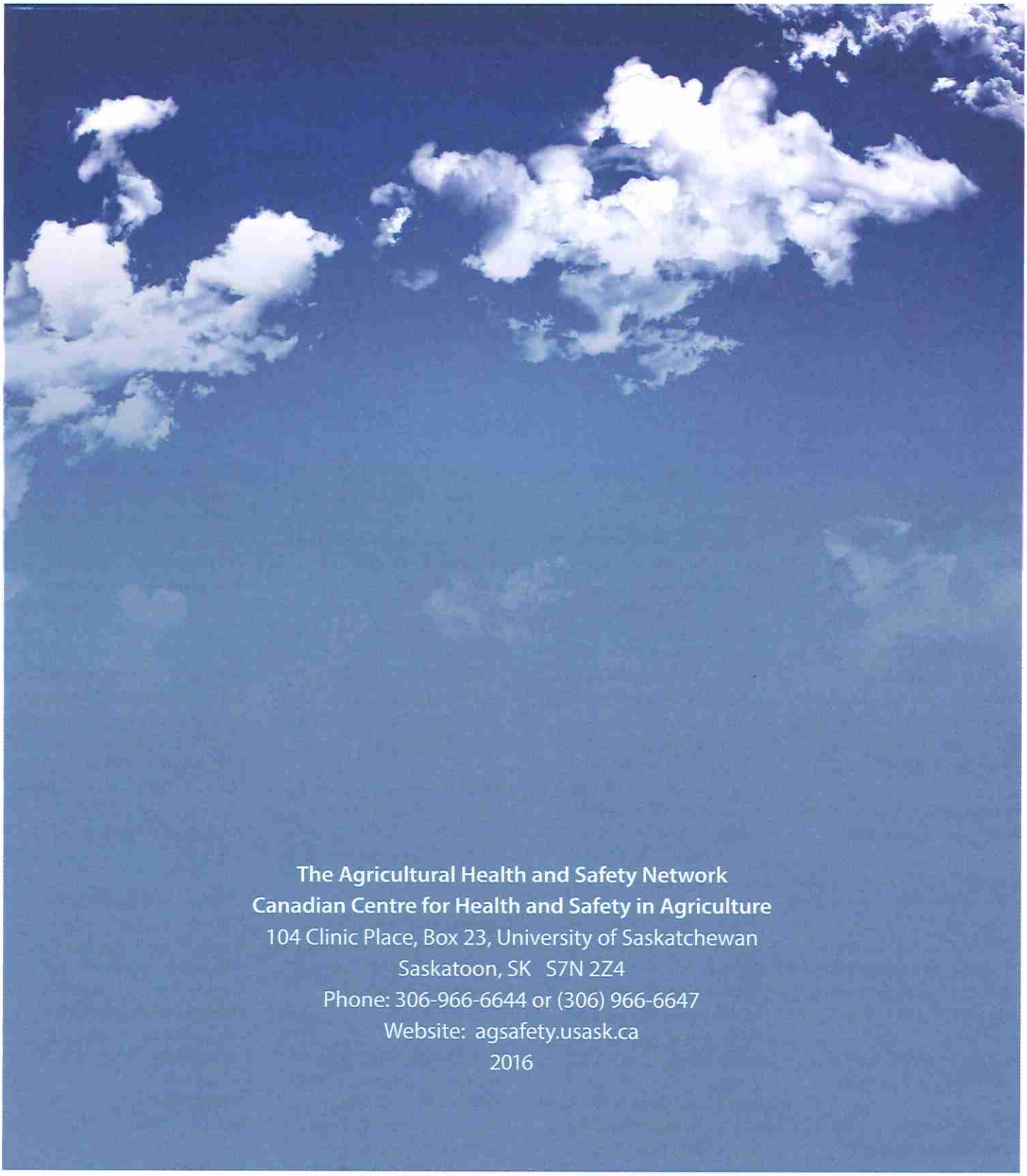

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UNIVERSITY OF SASKATCHEWAN