

# Interactive Demonstrations of Safe Play Areas at Rural and Agricultural Events



National Children's Center  
for Rural and Agricultural Health and Safety



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*The National Children's Center for Rural and Agricultural Health and Safety offers this manual as a tool to creating an Interactive Safe Play Area at Rural and Agricultural Events. In no way do the authors guarantee the content and suggestions contained within this manual as complete and/or safe. The users of the manual are solely responsible for the safety of the play area demonstration.*

# Safe Play Area Interactive Demonstration Manual

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**Marshfield Clinic**  
**Research Foundation**

*Photographs provided by: Casey Lake and Barbara Lee from Marshfield Clinic and The Centers for Disease Control and Prevention.*

## Introduction

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**A safe play area demonstration is** a to-scale constructed safe play site. This site models proper fencing, ground cover, and play structures for a safe play area.

**Safe Play Areas on Farms** with proper adult supervision are an acceptable alternative for children on farms when off-the-farm childcare is not an option.

### Potential Sponsors and Volunteers for Demonstration

- Rural/Farm Organization Leaders
- Community Officials
- Extension Agents
- Farm Owners and Families
- Youth Organization Leaders
- Agricultural Business Owners
- Cooperative Extension Services

### Why is promoting Safe Play Areas on Farms so important?

- There are 2.13 million farms in the United States<sup>1</sup>
- More than 1 million youth live on US farms, with an estimated 362,268 being less than 10 years of age<sup>2</sup>
- An estimated 9,000 children under 10 years sustain non-work farm related injuries each year<sup>3</sup>
- An estimated 26% of childhood injuries on farms occur to children visiting the farm at the time of injury<sup>1</sup>
- More than half of children killed or injured on farms were not working at the time of injury<sup>3</sup>

### What is the purpose of demonstrating Safe Play Areas?

*To provide quality resources, practical examples, and guidance to farm owners, parents, grandparents, and guardians of children living on and/or visiting farms. The ultimate goal is to eliminate childhood agricultural injuries by providing a safe outdoor play area for children on farms.*

### Who should be involved?

Utilizing community resources when planning a Safe Play Areas on Farms (SPAF) demonstration can generate support for the SPAF initiative. Attempt to recruit key community leaders who have knowledge of farming, safety, and child development. These individuals will be helpful in planning the demonstration and may also be willing to serve as resource personnel during the event. Enlist area youth organizations to assist in the construction and staffing of your demonstration.



## Developing a Plan

### Location, Location, Location.....

There are many potential locations for Safe Play Areas on Farms Demonstrations. Areas that would presumably generate the most farm family interest include: fairs, expositions, animal/equipment shows, commodity group events, conventions, and other events that are geared toward farm owners and parents of young children.

### How to Bring in the Crowd?

#### *Before the Event*

- Prepare and distribute news releases to media
- List information in community announcement calendar
- Recruit individuals to promote your demonstration at local community meetings
- Conduct radio interviews and public service announcements during time slots that reach the majority of your target audience
- Invite local/state political and community leaders to attend the event

#### *At the Event*

- Hang colorful balloons at the entrance
- Have bright signs directing the participants to and through the demonstration
- Ask the Master of Ceremonies to announce your demonstration
- Contact television and radio stations and offer to be interviewed during the event

### The demonstration should be...

- Informative
- Persuasive
- Interactive
- FUN



Concepts referenced from:  
J. Hartley. Farm Safety Day Camp Manual. Georgia Division of Public Health: Georgia Healthy Farmers Program  
Evaluation Guidebook for Community Youth Safety Programs. CSN National Children's Center for Rural and Agricultural Health and Safety



## Time Table

### 10-12 Months Before Event

- Confirm goals and objectives
- Propose evaluation methods
- Create a list of duties/tasks
- Reserve a location
- Determine approximate dimensions of site and unique features (e.g., field with tree and uneven ground)
- Inquire about logistics of the events (set-up/tear-down)
- Customize this checklist as needed and create your own benchmarks
- Determine approximate size of demonstration and expected number of attendees
- Plan out structures to build and assign responsibility to individuals
- Propose budget
- Identify possible funding sources
- Determine possible community resources
- Set schedule for future meeting dates

### 6-8 Months Before Event

- Identify preferred educational resources and play equipment
- Confirm available budget
- Assign responsible person for various costs
- Organize committees and distribute duties
- Propose general layout of play area
- Determine which products need to be purchased

### 4-6 Months Before Event

- Identify volunteers to aid in staffing, set-up, and tearing down
- Begin constructing larger structures
- Determine what, if any, items will be given out the day of event
- Sketch out a scaled blueprint of the demonstration site
- Assess array of proposed educational resources and equipment
- Review and confirm proposed layout
- Finalize evaluation methods and tools



### 2-3 Months Before Event

- Prepare press release
- Order handouts and resources

### 3 Weeks Before Event

- Determine if all needed materials have been obtained
- Notify the local newspaper/radio
- Develop schedule for set-up
- Submit press release to local newspaper/radio
- Mail out reminders of date and time to volunteers
- Assign an individual to be "in charge" for each work shift

### 1 Week Before Event

- Construct all major components of demonstration structures on site, including fencing
- "Child test" play area structures for safety
- Reassess and secure appropriate quantities of all handouts
- Provide written instructions to volunteers re: assignments, handling problems, etc.

### Day of Event

- Arrive early to complete last-minute set-up
- Invite attendees to ask questions
- Assign each volunteer to monitor children or interact with/teach adults
- At the end of each shift/day, discuss daily events with staff
- Provide refreshments for staff

### After Event

- Send thank you notes to volunteers
- Administer evaluation to staff
- Review evaluation feedback from attendees
- Propose changes for future events
- Submit report to sponsors

Concepts referenced from:  
J. Hartley, Farm Safety Day Camp Manual. Georgia Division of Public Health: Georgia Healthy Farmers Program

## Demonstration Components

### Important Messages To Endorse

**Factual Information on Childhood Agricultural Injuries** – compile childhood injury facts. Create eye-catching informational posters with local, state, and national data you collect. Look to promote positive activities. Do not show pictures of children partaking in risky behaviors. (Centers for Disease Control and Prevention: <http://www.cdc.gov/>)

**The Importance of Play in a Child's Development** – emphasize facts regarding how play impacts a child's physical, emotional, social, and intellectual development. Develop informational handouts and posters to promote this concept among adult attendees (*Refer to Creating Safe Play Areas on Farms booklet, p. 9-10*)

### Recommended Safe Play Demonstration Materials

**Fencing/Barriers** – securely attach examples to existing fences, trees, or walls. Place all examples in a central location so that participants can easily compare a variety of types. On each type place a sign explaining positive and negative attributes. (*see Appendix A for recommended fencing*)

**Ground Surfacing** – obtain small (shoebox size) plastic containers. Fill each with a type of groundcover. Label each type with a sign explaining positive and negative attributes, such as shock absorption potential and rate of injury.

(*see Appendix B for recommended ground cover and information to share*)

**Gates and Latches** – mount latch examples onto a sheet of plywood. Next to each example give a description and explanation of recommendations.

### To obtain handout materials, contact:

- Playground equipment manufacturer
  - Farm supply stores
  - Farm Safety 4 Just Kids ([www.fs4jk.org](http://www.fs4jk.org))
  - National Children's Center for Rural and Agricultural Health and Safety (1-800-662-6900) or [www.research.marshfieldclinic.org/children/](http://www.research.marshfieldclinic.org/children/)
  - Consumer Product Safety Commission
- \* some organizations will only provide limited quantities of materials*



Fencing/Barriers

### Recommended Handout Materials

- Play structure idea building instructions
- Recommended listing of ground surfacing
- Recommended listing of fencing
- Farm safety information
- List of local equipment sources
- Safety and age-appropriate activities (*refer to appendix and resources for possible sources*)



Gates and Latches

## Suggested Demonstration Play Equipment



Calf Hutch Club House



Tractor Tire in Sandbox



Balance Beam

**Tractor Tire in Sandbox** – securely bury a tractor tire at least one-third vertically into ground surface below sandbox. Children will climb on the tire and they may fall, therefore, ensure adequate distance from the sideboards and depth of sand that surrounds the tire. Instead of buying expensive sand toys, simply use plastic kitchen utensils, bowls, strainers, pitchers, and funnels. *(Note: Encourage parents to cover sandbox when not in use.)*

**Balance Beam** – use a full length 4" x 4" x 6' wood post. Fix two or three supports on the underside of the post (fastened perpendicular to the post). Partially bury the supports into the ground surface material. Supports will prevent the beam from tipping over. A tree log cut lengthwise may also be used. Set the balance beam on a level surface.

**Calf Hutch Club House** – begin with an unused calf hutch. Clean and sanitize hutch thoroughly. Have children use their imagination to paint the clubhouse with adult supervision. Securely affix the clubhouse to ground to avoid overturns. Place items such as small table, chairs, and tea set inside to promote group imaginative play. If climate is hot and/or humid add ventilation options. (ex: cut windows out of sides)

### To obtain building materials for a safe play area contact:

- Local discount stores
- Farm supply stores and catalogs
- Individuals willing to donate used items
- Second-hand stores

### Warning

All structures that can be climbed should be positioned at least six feet from fencing or equipment.

### Price Ranges (\$)

|                    |                     |
|--------------------|---------------------|
| Fence .....        | \$22 – \$104/50ft.  |
| Ground Cover ..... | \$1.50 – \$8.50/bag |
| Swing set .....    | \$150 – \$2,500     |
| Tire Swing .....   | \$0 – \$35          |
| Sandbox .....      | \$25 – \$300        |
| Playhouse .....    | \$0 – \$2,000       |
| Security .....     | Priceless           |

Concepts referenced from:

Esser, N., Heiberger, S. and Lee, B. (Eds.) (2003). *Creating Safe Play Areas on Farms*. Marshfield, WI: Marshfield Clinic



## Suggested Demonstration Play Equipment *(Continued)*

**Plastic Drum Sand/Water Table** – can be made from a plastic drum. The drum should be cut lengthwise with a low edge height to allow children to stand alongside while placing hands into the water. Secure drum to a stable support. The table should be easy to clean, drain, and cover. It should not be easy for children to crawl into. *(Note: Low-cost sandboxes and water tables are widely available at department stores.)*

*Warning: Children should be closely supervised when playing with water table.*

**Tractor Seat and Steering Wheel** – create this structure with an unused seat, such as from an old tractor, and a steering wheel. Use scrap lumber to mount the steering wheel and seat securely. Make sure the structure is supported well. *(Suggestion: put heavy weights inside box to avoid structure tipping.)*

**Chalkboard** – chalkboards can be attached to fences or trees for drawing. Some schools might donate old chalkboards.

**TIC TAC TOE Table** – create game board by using an old card table or large tree stump. Paint the table and then mark a border of the boxes with paint or a permanent marker. Create playing chips with scraps of wood, painted with Xs and Os. *(Suggestion: Create a similar table for checkers.)*



*Plastic Drum Sand/Water Table*



*Tractor Seat and Steering Wheel*



*Chalkboard*



*TIC TAC TOE Table*



Concepts referenced from:  
Esser, N., Heiberger, S. and Lee, B. (Eds.) (2003). Creating Safe Play Areas on Farms. Marshfield, WI: Marshfield Clinic

## Additional Considerations

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Entrance/Exit & Adult Seating

**Entrance/Exit** – limit the size of entrance into the play area to control the flow of people in and out of the demonstration area.

**Water** – consider providing drinking water for attendees. Water coolers with disposal paper cups are excellent for this purpose. *(Note: you will also need to provide trash cans for cup disposal.)*

**Adult Seating** – supply sturdy benches, or chairs for parents/adults to rest while keeping children in clear view. *(Note: these areas would be ideal for displaying information and brochures.)*

**Shade** – if your event is outside, provide ample shade over play structures for children and in rest areas for adults. Watch for signs of heat exhaustion.

**Hand Washing Stations** – provide hand-washing stations with instructions at the exit of the exhibit. If water is not available, provide alcohol-based hand sanitizing gel. Make sure hand-washing stations are low enough for children to reach!

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Water



Hand Washing Stations

## Recommended Rules for Play Area

Rules should be clearly written and posted at entrance to the demonstration.

### Rules may include:

- Opening and closing times
- Children must be accompanied by an adult
- Age requirements/limitation
- Suggested time limits in play area
- Report all injuries to playground personnel
- No throwing of woodchips, sand, or other objects
- Running or chasing is not allowed
- RESPECT other children

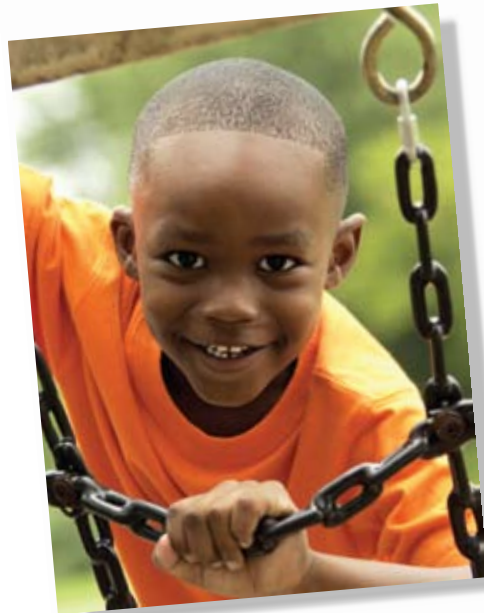


## Hazards to Watch for

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**Creating a safe demonstration of a Safe Play Area for public audiences can be challenging. Here are a few hazards to watch for when preparing the play area.**

- ❑ Keep a distance of at least 6 feet between play structures and other objects; such as additional play structures, benches, and fencing.
- ❑ Cover exposed ends of tubing not resting in the ground with caps or plugs.
- ❑ Wood items should be smooth and free of splinters.
- ❑ Round all edges on equipment.
- ❑ There should be no protrusions or projections (specifically watch for protrusions of nails or screws).
- ❑ Look for and eliminate locations where head entrapment could occur.
- ❑ Check extension of swings to assure adequate distance away from other objects.
- ❑ Place structures that may absorb heat from the sun (examples: tire jungles and metal tractors) under a shaded structure.
- ❑ Locate and place plants or other objects in front of tripping hazards such as tent support ropes or brightly color the material to avoid injury.



Concepts referenced from:  
Esser, N., Heiberger, S. and Lee, B. (Eds.) (2003). *Creating Safe Play Areas on Farms*. Marshfield, WI: Marshfield Clinic

## Evaluation

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Evaluation of your demonstration by attendees, staff, collaborators, and event coordinators is recommended. Results lend credibility to the project, can be used to document objective claims of effectiveness, and may help gain support for future projects.

### Why is evaluation important?

- Addresses questions on effectiveness before demonstration is replicated.

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- Determines productivity of time and effort spent on the demonstration.

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- Provides funding agencies with evaluation as part of project funding review.

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- Reevaluates demonstration project goals, to determine if they were met.

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- Determines impact of the event on attendees.

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## Steps to a Successful Evaluation

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1. Define specific broad-scoped goals along with clear objectives toward obtaining those goals.
2. Create an action plan of activities for each objective defined.
3. Determine which evaluation approach to utilize. (Formative, Process, Impact, or Outcome).
4. Develop important questions for each evaluation approach and determine best audience to answer them.
5. Set priorities on which approach to focus.
6. Identify a lead evaluator.
7. Determine best methods for each area of evaluation.
8. Develop evaluation tools.
9. Collect initial data.
10. Analyze and interpret data.
11. Distribute findings to parties involved.
12. Continue evaluation process.

Concepts referenced from:  
Christoffel, T., Gallagher, S. Injury Prevention and Public Health. Sudberry, Massachusetts: Jones and Bartlett Publishers, 2nd. 2006  
Evaluation Guidebook for Community Youth Safety Programs. CSN National Children's Center for Rural and Agricultural Health and Safety



# Child Development

|                          | Development Characteristics   | Safety Issues   | Age Appropriate Play Ideas   |
|--------------------------|---|---|--|
| <b>6 to 23 months</b>    | <ul style="list-style-type: none"> <li>• Has difficulty with balance</li> <li>• Fascinated by movement</li> <li>• Enjoys pretend play</li> <li>• Likes to explore surroundings</li> <li>• Experiments with sense stimulus (touch, smell, taste)</li> <li>• No sense for danger</li> </ul>   | <ul style="list-style-type: none"> <li>• Provide constant supervision</li> <li>• Requires fenced in play area with latched gate</li> <li>• Avoid uneven or slippery surfaces</li> <li>• Keep away from moving machinery</li> <li>• Place chemicals and sharp objects out of reach or locked up</li> <li>• Following play provide good handwashing</li> </ul>  | <ul style="list-style-type: none"> <li>• Sandbox</li> <li>• Playhouse</li> <li>• Low climbing objects</li> <li>• Swing set</li> <li>• Water table with cups/funnels</li> <li>• Balls to toss or roll</li> <li>• Small steps to climb and tires/barrels to crawl through</li> <li>• Bubbles</li> </ul>  |
| <b>2 to 5 year olds</b>  | <ul style="list-style-type: none"> <li>• Energetic</li> <li>• Can jump over objects 5-6 inches high</li> <li>• Balances and hops on one foot</li> <li>• Can solve problems if simple and concrete</li> <li>• Will play alone or with others</li> <li>• Enjoys mimicking adults</li> <li>• Does not understand hazards</li> <li>• Has illogical or imaginative thinking</li> </ul>   | <ul style="list-style-type: none"> <li>• Provide constant supervision</li> <li>• Requires a physical barrier from work areas</li> <li>• Attracted to adult farm activities and will want to help</li> <li>• Watch for tripping hazards</li> <li>• Teach and require child to wear safety helmets</li> <li>• Teach and provide good handwashing</li> </ul>   | <ul style="list-style-type: none"> <li>• Swing set</li> <li>• Balls to throw, kick and catch</li> <li>• Balance beam or stepping stones</li> <li>• Props for imaginative play</li> <li>• Bubbles</li> <li>• Sand box with tools</li> <li>• Group games: Duck Duck Goose</li> <li>• Playhouse</li> <li>• Water table with cups/funnels</li> <li>• Tire jungle for climbing</li> <li>• Toy tractors</li> </ul> |
| <b>6 to 8 year olds</b>  | <ul style="list-style-type: none"> <li>• Poor hand-eye coordination</li> <li>• Seeks parental approval</li> <li>• Operates with concrete facts</li> <li>• Unable to have abstract thought</li> <li>• Enjoys quiet activities</li> <li>• Curious about how things work</li> <li>• Short attention span, like to remain active</li> </ul>   | <ul style="list-style-type: none"> <li>• Provide constant supervision</li> <li>• Child will attempt adult activities to impress parents</li> <li>• Child is not ready for responsibility</li> <li>• Set boundaries for play area and enforce rules</li> <li>• Require safety helmets when appropriate</li> <li>• Require handwashing after play</li> </ul>  | <ul style="list-style-type: none"> <li>• Kite flying</li> <li>• Bicycles with helmet</li> <li>• Jumping rope</li> <li>• Tree house</li> <li>• Pretend school or farm store</li> <li>• Balance beam</li> <li>• Stepping stones</li> <li>• Swing set</li> <li>• Sandbox</li> <li>• Garden tools</li> <li>• Group games: Hide and Seek</li> <li>• Tire jungle for climbing</li> </ul>                           |
| <b>9 to 10 year olds</b> | <ul style="list-style-type: none"> <li>• Has good coordination skills, but will have awkward moments</li> <li>• Desires peer and social acceptance</li> <li>• Desires to be independent from adults; will attempt to do activities without adults</li> <li>• Successes are important</li> <li>• Improvements in reaction time</li> <li>• Specialized motor skills have developed</li> <li>• Body strength and dexterity increase</li> <li>• Does not fully understand consequences</li> <li>• Risk taker</li> </ul> | <ul style="list-style-type: none"> <li>• Provide intermittent/periodic supervision during play</li> <li>• Set and enforce simple rules on boundaries of play area with consistent consequences</li> <li>• Reward child for good behavior</li> <li>• Assign low risk takers with hand tools</li> <li>• Remove keys from ignition of tractors and other vehicles; keep keys in safe location away from children</li> <li>• Instruct children to stay away from work area</li> <li>• Instruct workers to return child to play area if found in work area</li> <li>• Provide safety helmets</li> <li>• Require handwashing</li> </ul> | <ul style="list-style-type: none"> <li>• Team and individual sports</li> <li>• Monkey bars and other climbing structures</li> <li>• Tire swing</li> <li>• Sandbox</li> <li>• Chalk board with colored chalk</li> <li>• Tree house</li> <li>• Airplanes</li> <li>• Snow forts</li> <li>• Sprinklers</li> <li>• Bicycle with helmet</li> <li>• Skates and protective gear</li> </ul>                           |

**All Children under 10: Do not allow child to be an extra rider on tractor, ATV, lawn mower, or other machinery.**

Concepts referenced from:  
 Esser, N., Heiberger, S. and Lee, B. (Eds.) (2003). *Creating Safe Play Areas on Farms*. Marshfield, WI: Marshfield Clinic  
 Murphy, D., Hackett, K. (1997). *Children and Safety on the Farm*. University Park, PA: Pennsylvania University

This fact sheet can be downloaded and printed from: <http://www.marshfieldclinic.org/safeplay/keystocreate/>

## References

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2. USDA-National Agricultural Statistics Service (2004). 2001 Childhood Agricultural-Related Injuries. Available at <http://jan.mannlib.cornell.edu/reports/nassr/other/injury/injr0104.pdf>
3. Myers, J. R., and Hendricks, K.J. (2001). Injuries Among Youth on Farms in the United States, 1998 (DHHS/NIOSH Publication no. 2001-154). Cincinnati, OH: National Institute for Occupational Safety and Health. Available at <http://www.cdc.gov/niosh/childaf/pdfs/2001154.pdf>
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7. Murphy, D., Hackett, K. (1997) *Children and Safety on the Farm*. University Park, PA: Pennsylvania University.
8. Georgia Division of Pubic Health, Department of Human Resources. (2002) *Farm Safety Day Camp Manual*, Hartley, JW. :author.



## Resources

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### Playground Safety

*Outdoor Home Playground Safety Handbook*

*Home Playground Safety Checklist*

U.S. Consumer Product Safety Commission

<http://www.cpsc.gov/>

Phone 1-800-638-2772

*National SAFE KIDS Campaign*

<http://www.safekids.org>

*National Program for Playground Safety*

(numerous pamphlets, videos, and other playground safety materials available)

<http://www.playgroundsafety.org>

1-800-554-PLAY (7529)

### Agricultural Health and Safety

*Farm Safety for Just Kids*

<http://www.fs4jk.org>

Phone 1-800-423-5437

*Keep Young Children Safe on Farms*

Iowa State University Extension, PM 15631

<http://www.extension.iastate.edu/Publications/PM15631.pdf>

*North American Guidelines for Children's Agricultural Tasks (NAGCAT)*

<http://www.nagcat.org/>

Phone 1-800-662-6900

*Progressive Agriculture Foundation*

<http://www.progressiveag.org>

### Child Development

*Bright Futures Project* (an initiative funded by the U.S. Department of Health and Human Services under the direction of the Maternal and Child Health Bureau)

<http://brightfutures.org/>

Phone 301-279-889

### Creation of a Play Area

*Creating Safe Play Areas on Farms* (Booklet)

National Children's Center for Rural and Agricultural Health and Safety

<http://www.marshfieldclinic.org/safeplay/>

Phone 715-389-4999 or 1-800-662-6900

### Hazards of Outdoor Environment

*Common Plants – What's Poisonous and What's Not*

University of Wisconsin-Health

<http://www.uwhealth.org> search for: Poison Plants

### Infectious Diseases – West Nile and Hanta Virus

Centers for Disease Control and Prevention

<http://www.cdc.gov/ncidod/>

Concepts referenced from:

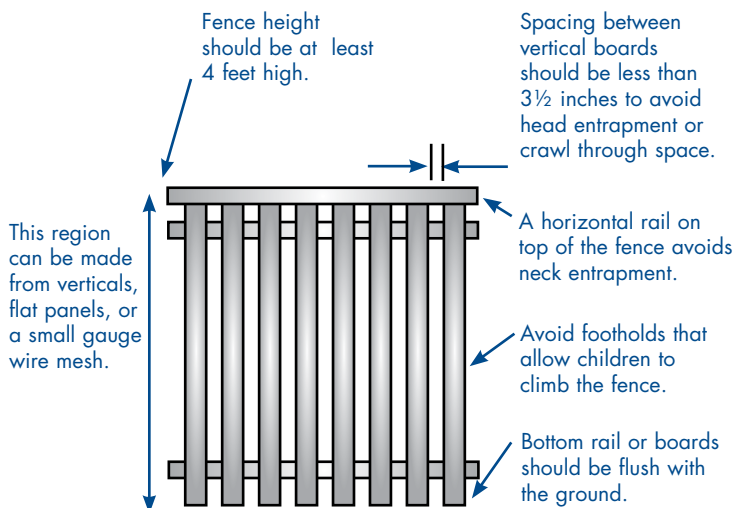
Esser, N., Heiberger, S. and Lee, B. (Eds.) (2003). *Creating Safe Play Areas on Farms*. Marshfield, WI: Marshfield Clinic

# Appendix A

## Fencing Guidelines and Recommendations

| Recommended Fencing |  |
|---------------------|--|
| Type of Fencing     | Attributes/Concerns  |
| <b>Mesh</b>         | <ul style="list-style-type: none"> <li>• Can be fitted to existing fence</li> <li>• Attach mesh to railing to prevent sagging</li> <li>• Mesh can unravel leading to ineffectiveness (reinforced vinyl borders on all 4 sides is recommended)</li> </ul> |
| <b>Panel</b>        | <ul style="list-style-type: none"> <li>• Challenging to climb</li> <li>• Some models do not allow for visual supervision from outside</li> </ul>   |
| <b>Privacy</b>      | <ul style="list-style-type: none"> <li>• Challenging to climb</li> <li>• Difficult to visually supervise from the outside</li> </ul>   |
| <b>Wrought Iron</b> | <ul style="list-style-type: none"> <li>• Challenging to climb</li> <li>• Space between vertical members must be less than 3½ inches</li> <li>• Avoid models with spikes – can cause puncture wounds</li> </ul>   |
| <b>Chain Link</b>   | <ul style="list-style-type: none"> <li>• Fence offers long-lasting stability</li> <li>• Easy to climb (can add weaving to minimize climbing)</li> <li>• Cover exposed points - could cause puncture wounds</li> </ul>                                    |

| Cautionary Fencing        |   |
|---------------------------|---|
| Type of Fencing           | Concerns/Attributes   |
| <b>Hedge</b>              | <ul style="list-style-type: none"> <li>• Must be thick enough to achieve boundaries</li> <li>• Sharp twigs – can cause puncture wounds</li> <li>• Requires weekly inspection for sharp twigs and holes in safe play area barrier</li> </ul> |
| <b>Galvanized Net</b>     | <ul style="list-style-type: none"> <li>• Larger grades easily climbed - can cause head injury</li> <li>• Sharp points – can cause puncture/ scrapes</li> </ul>  |
| <b>Chicken Wire</b>       | <ul style="list-style-type: none"> <li>• Wire uncomfortable for fingers and toes</li> <li>• Sharp ends – can cause puncture wounds</li> <li>• Requires monthly inspection for sharp edges</li> </ul>  |
| <b>Plastic Snow Fence</b> | <ul style="list-style-type: none"> <li>• Bendable – can cause entanglement</li> <li>• Fence can be easily knocked down</li> <li>• Children can easily crawl beneath fence</li> <li>• Deteriorates – need for yearly replacement</li> </ul>  |



| Not Recommended    |   |
|--------------------|---|
| Type of Fencing    | Concerns/Attributes   |
| <b>Split-Rail</b>  | <ul style="list-style-type: none"> <li>• Easily climbed – can cause head injury</li> <li>• Easily crawled through</li> <li>• Spacing of horizontal members – could cause head entrapment</li> </ul> |
| <b>Welded Wire</b> | <ul style="list-style-type: none"> <li>• Easily climbed – can cause head injury</li> <li>• Bendable – can cause entanglement</li> </ul>   |
| <b>Picket</b>      | <ul style="list-style-type: none"> <li>• Easily climbed – can cause head/neck injury and puncture wounds</li> </ul>   |
| <b>Garden</b>      | <ul style="list-style-type: none"> <li>• Easily climbed – can cause head injury</li> <li>• Bendable - can cause entrapment</li> </ul>   |

The following charts can be downloaded and printed from: <http://www.marshfieldclinic.org/safeplay/keystocreate/>

## Appendix B

### Groundcover Comparison and Recommendations

| <i>Comparison of loose-fill ground surfacing materials</i> |  |   |
|--|--|---|
|  | <b>Organic Loose Material</b>  | <b>Inorganic Loose Material</b>   |
| <b>Material</b>  | Pine bark, shredded bark nuggets, wood chips, cocoa shell mulch  | Sand, pea gravel, shredded/recycled rubber  |
| <b>Advantages</b>  | <ul style="list-style-type: none"> <li>• Low initial cost</li> <li>• Ease of installation</li> <li>• Less abrasive than sand</li> </ul>  | <ul style="list-style-type: none"> <li>• Ease of installation</li> <li>• Does not promote microbial growth</li> <li>• Generally nonflammable (except rubber products)</li> </ul>  |
| <b>Issues to consider</b>                                  | <ul style="list-style-type: none"> <li>• With time, these materials may decompose and lose their cushioning effect</li> <li>• Materials can be displaced by strong winds or the playing action of children thereby reducing cushioning effect</li> <li>• Susceptible to microbial growth when wet</li> <li>• Can get thrown around</li> <li>• Some children are allergic to bark dust</li> </ul> | <ul style="list-style-type: none"> <li>• Initial cost varies (transport can be costly)</li> <li>• Sand and pea gravel may be displaced by the playing action of children thereby reducing the cushioning effect</li> <li>• Can be swallowed, blown or thrown – potentially leading to injury</li> <li>• Easily spreads outside the containment area</li> <li>• Rubber may have an unpleasant smell</li> </ul> |

| <i>Recommended Groundcover</i>           |  |
|--|--|
| <b>Type of Groundcover</b>               | <b>Attributes/Concerns</b>   |
| <b>Sand</b>                              | <ul style="list-style-type: none"> <li>• Readily absorbs shocks</li> <li>• 9 inches compressed material – will protect from falls up to 4 feet</li> </ul>  |
| <b>Shredded/ Recycled Rubber</b>         | <ul style="list-style-type: none"> <li>• Readily absorbs shocks</li> <li>• Available in lighter colors to avoid excessive heating</li> <li>• 9 inches compressed material will protect from falls up to 10 feet</li> </ul> |
| <b>Engineered Wood Fiber/ Wood Chips</b> | <ul style="list-style-type: none"> <li>• Falls rarely result in injury</li> <li>• Readily absorbs shock</li> <li>• 9 inches compressed material – will protect from falls up to 10 feet</li> </ul>                         |

| <i>Cautionary Groundcover</i> |  |
|-------------------------------|--|
| <b>Type of Groundcover</b>    | <b>Concerns/Attributes</b>   |
| <b>Pea Gravel</b>             | <ul style="list-style-type: none"> <li>• Considered a choking hazard for infants and toddlers</li> <li>• Avoid gravel with sharp edges</li> <li>• 9 inches compressed material – will protect from falls up to 5 feet</li> </ul> |

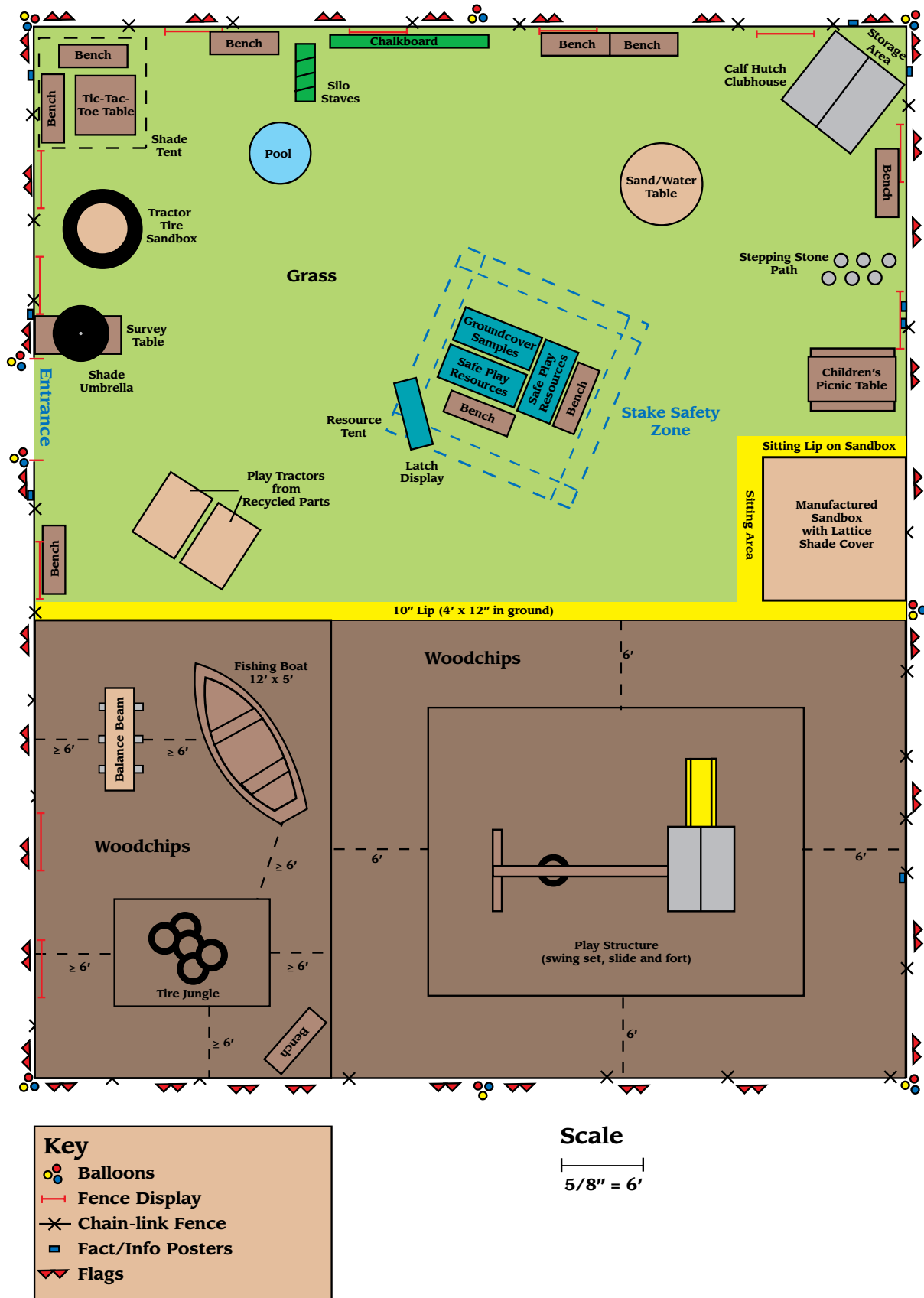
| <i>Not Recommended</i>       |  |
|------------------------------|--|
| <b>Type of Groundcover</b>   | <b>Concerns/Attributes</b>   |
| <b>Concrete/ Patio Brick</b> | <ul style="list-style-type: none"> <li>• Falls from short distances can result in injury</li> <li>• Surface does not absorb shock</li> </ul> |
| <b>Grass (Sod)</b>           | <ul style="list-style-type: none"> <li>• Falls from short distances can result in injury</li> <li>• Surface does not absorb shock</li> </ul> |
| <b>Bark Mulch</b>            | <ul style="list-style-type: none"> <li>• Decomposes readily</li> <li>• High prevalence of microbial growth when wet</li> </ul>               |

This fact sheet can be downloaded and printed from: <http://www.marshfieldclinic.org/safeplay/keystocreate/>



# Appendix C

## Safe Play Area Model demonstration layout



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