



INTRODUCTION

Field research is defined as work activities conducted for the purpose of research by employees or students of the university outside of a research laboratory. General field research hazards may be presented by research activities, as well from the physical, political, social, cultural and/or economic environment of the field location. **Agricultural field research can present additional hazards such as working around heavy equipment, working with animals or livestock, chemical / pesticide exposure, working in moving water, working in isolated areas, and severe weather.** While some events may be unpredictable and may be unavoidable, the risks associated with field research can be greatly reduced through training, awareness of hazards and exercising good judgment.

Clarification of individuals involved in CFAES field research:

- **Research Farm / Station Manager** is a person responsible for the day to day operations of a specific off-campus research location and manages a variety of field research projects at that location.
- **Principal Investigator (PI)** is a faculty member who assembles a team to carry out field research.
- **Field Supervisor** is a person appointed by the Principal Investigator to directly oversee field research at the field location. Field supervisor and Research Farm / Station Manager may be the same person in some situations.
- **Field Worker** is a person who carries out research under the direction of a field supervisor.

Whenever possible, fieldwork should be performed after assessing the field research risks and available controls and establishing safety procedures. No person is advised or recommended here to undertake fieldwork in any way that might place them in unreasonable risk from physical or health hazards. Each field researcher has the right to refuse to participate in an activity that they feel may endanger their own safety or the safety of another person.

All individuals involved with CFAES field research should ensure that appropriate controls and safety procedures are in place to deal with the risks reasonably expected to be associated with the field research, as well as provision of appropriate protective equipment and training.

The following is a set of guidelines to assist with putting together a safety plan for field teaching / research.

TRAVEL INSTRUCTIONS AND GUIDELINES

Abide by all OSU and state rules and regulations.

Driving and Vehicle Safety

- Seat belts save lives. Everyone must be buckled before the vehicle moves.
- Only authorized drivers will drive OSU vehicles.
- Drivers should not drive more than ~ 2 hrs without a break.
- Ensure that there is a passenger list in the vehicle.
- Always check to make sure that all passengers are present before leaving a field trip stop.
- NO alcohol is to be transported in state vehicles.
- NO ONE may drink and drive.
- OBEY the speed limits, and drive according to the weather, road conditions, etc.
- NO use of cell phones while driving.
- NO texting while driving.
- Park the vehicles away from any potential source of fire, such as dry grass.

- All participants and drivers should identify who has keys before we go out into the field.
- Work may be conducted in areas where cell phone coverage is spotty or non-existent. Try to determine where coverage occurs and have emergency plans based on this.
- NO one should take a vehicle without consent of an instructor, or without communicating a plan to the instructor; THE ONLY exception is in the case of an emergency
- One of the most frequent driving issues that occur in field classes are small incidents in parking lots, campgrounds, etc. These can be avoided by having other people watch for obstacles, people, and other vehicles, particularly when backing up.

Vehicle Fire Safety: *If there is a vehicle fire, what should I do?*

- Get yourself and all others out of and away from the vehicle. Be aware of traffic and pedestrian activity and warn them away from the vehicle.
- DO not try to save equipment or personal belongings, just get out.
- If there is a fire extinguisher in the vehicle, take it with you as you exit the vehicle. Even if you cannot use the fire extinguisher, it may be useful to emergency responders that arrive on scene.
- Never put yourself in danger using a fire extinguisher.
- Fire extinguishers must be appropriate for the type of fire.
- Only trained persons should try to control a fire. *Do not attempt to use a fire extinguisher unless you have been properly trained to do so.*
- If you use a fire extinguisher, follow the procedures given during your training and only do so from a safe distance and always have a means to get away.
- After you are a safe distance from the vehicle, call 9-1-1 or the local emergency telephone number. Tell them the location of the fire and follow the instructions of the dispatcher.
- Remain away from the vehicle: *do not attempt to get back into a burning vehicle to retrieve personal property.*
- Do not open the hood or trunk if you suspect a fire under it. Air could rush in, enlarging the fire, leading to injury.

FIELD SAFETY: POTENTIAL SOURCES OF RISK AND PROCEDURES

SAFETY IN THE FIELD IS EVERYONE'S RESPONSIBILITY. STUDENTS ARE EXPECTED TO ACT RESPONSIBLY AT ALL TIMES.

The following is a list of procedures and risks associated with field teaching / research. This list is not all encompassing, but it represents the best estimate of potential issues. It encompasses driving, field work, environmental, and other risks.

1. **Safety comes first.** No project or data is worth your life. The question, "Can I do this safely?" should always be foremost in your mind. If you have any doubts, STOP immediately, evaluate the situation, and then determine a safe procedure. If none exists, do not continue the project or work. Return home and discuss the project and safety concerns with your supervisor.
2. **Field safety training.** All participants are required to read and understand the CFAES Field Teaching and Research Safety Guidelines and materials specific to your department.
3. **Plan for safety before you go into the field.** Think about the work being conducted, environment (plants and animals), season (hot, cold, rain, snow, etc.), equipment being used, and your own physical condition and health. Check the weather forecast – How hot will it get and what is the heat index? Is rain or snow possible? How far away will I be from my vehicle? Consider all these factors, and then make sure that you have adequate training and skills to handle any situation that might arise. Decide how you will respond and what gear you might need.

Check your safety gear before you go into the field. Prepare for the worst weather and conditions you might encounter.

4. **Extreme or Severe Weather.** Individuals and leaders should carefully consider the safety aspects on the occasion of their visit and in bad conditions be prepared to cancel or modify part or all of the field trip as is necessary for safety.
5. **Discuss safety concerns with your supervisor.** If you are concerned about any situation you might encounter, or feel that you do not have adequate training or experience, discuss your concerns with your supervisor before you go into the field.
6. **Safety procedure when in a group.** Some field activities may be conducted in a group setting.
 - a. Remember to be aware of where other students are at all times.
 - b. Field groups will be assigned for both learning and safety. Please be aware of where your group members are at all times.
 - c. Do NOT go out of sight for long periods of time. Let someone know if you must leave the designated area.
 - d. Risky behavior will not be tolerated in the field. Any willful behavior that endangers oneself or other students is cause for the student to be sent home.
 - e. Water, first aid equipment, and some emergency supplies will be placed in each field vehicle, and for most of the class, vehicles will be left open so that these items are immediately accessible.
 - f. Have a good sense of the abilities of everyone in your group. Are there people who are out of shape? Is there someone with limitations? Any health issues?
7. **Working ALONE in the field requires extra precautions. Designate a Contact Person before working alone in the field. Working alone should be avoided if possible.** There is no such thing as a totally risk-free situation and it is easy it is to become incapacitated. e.g. fall from an elevated area. Your contact should someone to monitor your status in the field, who you will contact frequently while in the field to assure them of your safety, and who will emergency services if needed. In any case, faculty will act as the contact if needed. NEVER leave without leaving word with someone.
 - a. BEFORE leaving for the field, WRITE OUT a clear action plan (verbal information is seldom reliable when someone is worried or upset). Decide together each step or procedure each of you will follow – and when. Be clear on details. Your plan should include:
 1. Where you are working. Be as precise as you can.
 2. Give the contact person all possible information on how they can locate you while you are in the field (your cell number, motel info, etc.) and the name and phone number of the main office and your supervisor.
 3. A specific time when you will check in with the contact person.
 4. The steps your contact person will follow if you do not check in by the agreed upon time.Follow your plan! Check in with your contact person according to the plan. If you forget to check in, you will probably have someone looking for you.
8. **Do not work alone in high-risk situations.** A buddy system is a best practice when conducting fieldwork with a high – risk element. The companion should be someone that can help you in case of a high-risk situation. The field worker should determine if any such risks exist and discuss any concerns or requests for a field companion with his/her supervisor.
9. **FIELD WORK IS NOT AN EXTREME SPORT!** Have a safe attitude. We live in a society where people are encouraged to “push the limits.” A risk-taking attitude is probably the single largest contributing factor in most accidents. This attitude leads directly to injuries and deaths. Get rid of this attitude before you go.

10. **Choose the safe option.** Yes, it may take longer, but the safer method or practice will always be your best option.
11. **Carry a cell phone.** Make sure it is fully charged. If a regular cell phone, know where it will be within range, and where it will not be. At least one member of any field group should have contact information of the supervisor, site manager, or emergency services.
12. **Carry extra water. Dehydration can set in quickly** Always keep extra water close by and take breaks when temperatures and the heat index rises.
13. **Carry a first aid kit.** Know how to use it.
14. **Carry Personal Protective Equipment (PPE) or safety gear.** When planning with the supervisor, consider the PPE or safety gear that will be needed during the work tasks. Remember to take the PPE with you.
15. **Know your own health and your own limitations.** This is another of the main factors in many injuries related to strenuous work tasks. The problem started because of poor personal physical condition. For example: poor fitness lead to overexertion, fatigue led to poor judgment, poor conditioning led to severe illness, bad knees or ankles led to slips and falls, etc.
16. **Leave a margin of safety.** For example: leave an extra hour of daylight to get back to your vehicle; do not wait to the last minute with on-coming thunderstorms or get in rush to beat the rain.
17. **Equipment Safety.** Workers should take extra precaution when working around farm equipment and consider the consequences of an injury. Workers should understand how the equipment functions and should not operate equipment unless properly trained. Precautions to reduce the risk of injuries this spring can include:
 - Follow the procedures in the operator's manual of equipment for safe operation, maintenance, and trouble shooting
 - Keep equipment properly maintained and check all guards are in position and correctly fitted before starting work.
 - Insure equipment has adequate lighting for working in the dark. Increase caution when working in early morning or late evening when daylight is diminished.
 - Maintain 3 points of contact when mounting or dismounting equipment. (1 hand and 2 feet) or (2 hands and 1 foot)
 - Ensure that steps, hand holds, and railings are in safe operating condition.
 - Exercise caution when steps or walking surfaces are wet or dirty.
 - Avoid jumping off of the last step and anticipate changes in ground elevation or rough terrain when dismounting from the last step.
 - Be alert to you surroundings. Know where equipment is being positioned and be observant to individuals who may be walking around equipment.
 - Plan ahead and utilize safe methods when hitching and unhitching equipment.
 - When working with others around equipment, maintain eye contact and communicate your intentions with the other person.
 - Use Personal Protective Equipment when appropriate (ear plugs, safety glasses, gloves, respirator, etc.)
 - Review all fertilizer and pesticide labels or Safety Data Sheets prior to using the product.
 - Utilize safe travel routes between fields, and take into account potential problems with automobile traffic and narrow roadways. Use escort vehicles when needed.

18. **EPA Worker Protection Standards.** Protecting individuals from potential adverse effects of pesticides is important. Exposures can be caused by preparing or applying pesticides, as well as entering an area where pesticides have been applied. Worker Protection Standards must be followed including following Restricted-Entry Intervals.
19. **Water safety.** Stream crossings, when necessary, should be executed with the utmost care.
20. **Creature Safety.** Avoid all contact with animals, insects, and other creatures.
21. **Food Safety.** Attempt to keep a clean and sanitary food / break area for safety. However, there are always risks associated with food.
22. **Hunting safety.** While the large majority of hunters are safe and responsible, a small number are not. The highest risk is during deer gun season when the most hunters are in the field with long-range guns. Seasons vary significantly across the region – determine if hunting season is open in the area you will be working. If possible, avoid going to the field during open rifle seasons. If you do need to go to the field, wear “hunter orange” clothing. Avoid areas where hunters tend to concentrate. Be respectful of hunters by: 1- talking to hunters in the area – ask them where they plan to hunt and to be aware that you are in the area; 2- avoid their “focus” areas – game trails, watering holes, open meadows, etc.
23. **DRIVING – THE BIGGEST RISK!** Statistically, driving and riding in a vehicle are the highest-risk part of fieldwork. Follow all federal, state and OSU rules. Do not drive while fatigued or distracted. If you are tired after a long day in the field, it is better to camp or get a motel room than make a long drive home. Be alert to changing weather conditions that could turn a dry road into a dangerous situation. **See “Travel Instructions” Section for more information.**
24. When working in groups, have a plan for keys for vehicles. If a part of your group needs to drive out, hiding keys near the vehicle avoids losing time finding the person with the keys.
 - a. Get phone numbers of team members.
 - b. Make a Google map of the nearest hospitals.
23. **First Aid Kit** It is essential that participants take first aid kits with them in the field. There should be a portable kit as well as one with extra supplies in the vehicles. A traditional kit will include the following:
 - 2 absorbent compress dressings (5 x 9 inches)
 - 25 adhesive bandages (assorted sizes)
 - 1 adhesive cloth tape (10 yards x 1 inch)
 - 5 antibiotic ointment packets (approximately 1 gram)
 - 5 antiseptic wipe packets
 - 1 blanket (space blanket)
 - 1 breathing barrier (with one-way valve)
 - 1 instant cold compress
 - 2 pair of nonlatex gloves (size: large)
 - 2 hydrocortisone ointment packets (approximately 1 gram each)
 - Scissors
 - 1 roller bandage (3 inches wide)
 - 1 roller bandage (4 inches wide)
 - 5 sterile gauze pads (3 x 3 inches)
 - 5 sterile gauze pads (4 x 4 inches)
 - Oral thermometer (non-mercury/nonglass)
 - 2 triangular bandages
 - Tweezers
 - First aid instruction booklet

SAFETY RISKS TO BE CONSIDERED FOR THE FIELD

Some possible risks to plan for (take time to read/research about how you could handle or prepare for these situations):

- driving safety to/from/in field
- fatigue
- driving back country roads
- heat related concerns
- cold related concerns
- drinking water needs
- lightning
- weather changes
- insects – allergic reaction
- insects – diseases
- snakes, scorpions, etc
- poisonous plants
- illness/food poisoning
- falls, sprains, breaks
- personal health (heart, knees, back, etc)
- human encounters:
 - verbal confrontations
 - assault/aggression
 - robbery/car jacking
 - stumbling upon crime
 - hidden drug crops

In the event of an emergency – S.T.O.P.

- Stop – sit down, slow your breathing, calm yourself, sip some water, suck on some candy. Even in an emergency – take a few seconds; do not make one tragedy become two.
- Think – force your analytical mind to take over; resist the urge to panic, react automatically, or make hasty reactions
- Observe – your surroundings, your own condition, your resources, your options
- Plan – make a decision, then proceed slowly and thoughtfully (but alter the plan if needed)

ACKNOWLEDGMENT OF PARTICIPANT

By signing this statement, I acknowledge and certify that the following actions and communications were performed in a clear manner.

I was informed of the procedures, regulations, and sources of risk. I have had sufficient time to read the materials provided, and I was informed by the instructor / supervisor of the procedures, policies, and risks involved.

I was given opportunities to ask questions, both in private and in public, to clarify any of the information provided.

I provided a full and truthful statement of my health status, and I was provided opportunities to discuss any health issues with the instructor.

It was made clear that risk assessments and general planning have occurred for this class, but that no one can foresee all risks and situations in this class.

I am aware that IF AT ANY TIME, I violate these safety or field guidelines, and the instructor[s] deem my behavior to have contributed to an unsafe or inappropriate learning environment, the instructors have the right to rectify the situation. This might include a discussion with me and/or other students to correct the behavior, and/or it may lead to immediate removal from the course, in which case, participants are provided a ride to the nearest public transportation to return to campus.

Signature of Student

Date

Signature of Instructor / Supervisor

Date

OSU College of Food, Agricultural, and Environmental Sciences

Agricultural Field Safety Plan

This template may be used by the Principal Investigator (PI), Project Manager, Professor, or Instructor to **assist** with the development of a Field Safety Plan for classes and research projects. **The completed Safety Plan should be shared with all the members of the field team.** Multiple trips to the same location can be covered by a single Safety Plan. The Safety Plan should be revised whenever a significant change to the location or scope of fieldwork occurs.

- Field Teaching
 Field Research
 Single Site Visit
 Multiple Site Visits
 Single Site Visit
 Multiple Site Visits

Section I.

Principal Investigator/Project Manager/Professor/Instructor:		Department:	
Phone:		Email:	
Project Duration:			

Location of Field Teaching / Research

Country:		Geographical Site:	
State or County:		Nearest City:	
Nearest Hospital or Other Health Facility:		Phone Number:	

Attach map with driving directions from field site to nearest hospital or health care facility

OSU Contact Person:		Phone:	
Local (Field) Contact Person:		Phone:	

Field Work Personnel (Attach separate sheet of paper if necessary)

Name	Affiliation, Phone, Emergency contact #s and names	Category (check all that apply)			
		Leader	Team Member	Other (specify)	Trained First Aider
		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>

Section II.

Field Research Study/Project: Describe scope of fieldwork or activity. (Attach separate sheet of paper if necessary). Please include county names, county Sheriff numbers, and general GPS coordinates of boundary of the study area. If you plan to be out of this area, describe your plan to let people know.

Hazards Inherent to the Project (Check all that Apply)

Environment

- High Altitude
- Extreme Temperature
- Excessive/Extreme Exposure to sun, wind, blowing sand, etc.
- Work Over/Under Water
- Other _____

Accessibility

- Remote Location
- Long Distance to Medical Services
- Difficult Communications with the Outside World

Terrain

- Rough/Unusual Terrain
- Flash Flood Potential
- Falling Objects (avalanches, rock falls, etc.)
- Work along roadway shoulders (Attach traffic control plan and permit, if required)
- Heights (trees, cliffs, etc)
- Disaster Area
- Violence (political, military, etc)

Work Tasks

- Work in Confined Space (natural or man-made)
- Trenching/Excavating
- Work at Night/Poor Lighting
- Noise Generated > 85 dBA
- Dusts/Other Particulate Hazards
- Potential for Oxygen Deficiency or Other Atmospheric Hazard (i.e. gas, vapor)
- Hazardous Waste Generation
- Transportation of Hazardous Materials
- Handling Hazardous Materials
- Storage of Hazardous Materials on site
- Lack of Potable Water
- Lack of Sanitary Facilities
- Flying Debris or Impact
- Electrical Hazard
- Fire Hazards Diving
- Climbing / Working From Elevations Required
- Other _____

<p>Equipment Used in the Field</p> <p><input type="checkbox"/> Tractor</p> <p><input type="checkbox"/> UTV / ATV: _____</p> <p><input type="checkbox"/> Skid Loader</p> <p><input type="checkbox"/> Sprayer / Fertilizer Applicator</p> <p><input type="checkbox"/> Combine / Harvesting Equipment</p> <p><input type="checkbox"/> Livestock Handling Equipment</p> <p><input type="checkbox"/> Hand / Power Tools</p> <p><input type="checkbox"/> Other: _____</p> <p><input type="checkbox"/> Other: _____</p> <p>Equipment / Machine Hazards</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Wrap Points</td> <td><input type="checkbox"/> Burn Points</td> </tr> <tr> <td><input type="checkbox"/> Cut Points</td> <td><input type="checkbox"/> Stored Energy</td> </tr> <tr> <td><input type="checkbox"/> Pinch Points</td> <td><input type="checkbox"/> Thrown Objects</td> </tr> <tr> <td><input type="checkbox"/> Crush Points</td> <td><input type="checkbox"/> Free Wheeling Parts</td> </tr> </table>	<input type="checkbox"/> Wrap Points	<input type="checkbox"/> Burn Points	<input type="checkbox"/> Cut Points	<input type="checkbox"/> Stored Energy	<input type="checkbox"/> Pinch Points	<input type="checkbox"/> Thrown Objects	<input type="checkbox"/> Crush Points	<input type="checkbox"/> Free Wheeling Parts	<p>Materials Brought to Field Area</p> <p><input type="checkbox"/> Chemicals</p> <p><input type="checkbox"/> Biological</p> <p><input type="checkbox"/> Radiological</p> <p><input type="checkbox"/> Other: _____</p> <p>Agricultural Confined Spaces</p> <p><input type="checkbox"/> Grain Bins / Handling</p> <p><input type="checkbox"/> Manure storage</p> <p>Worker Protection Standard</p> <p><input type="checkbox"/> Pesticide Handler</p> <p><input type="checkbox"/> Pesticide Worker</p> <p>Plants / Animals / Insects</p> <p><input type="checkbox"/> Venomous/Poisonous Animals: _____</p> <p><input type="checkbox"/> Insects as Known Disease Carriers</p> <p><input type="checkbox"/> Trapping/Handling Animals: _____</p> <p><input type="checkbox"/> Toxic/Poisonous Plants: _____</p>
<input type="checkbox"/> Wrap Points	<input type="checkbox"/> Burn Points								
<input type="checkbox"/> Cut Points	<input type="checkbox"/> Stored Energy								
<input type="checkbox"/> Pinch Points	<input type="checkbox"/> Thrown Objects								
<input type="checkbox"/> Crush Points	<input type="checkbox"/> Free Wheeling Parts								

Section III.

Safety Plan: Describe safety provisions or procedures for the hazard(s) identified in the field research activities. (Attach separate sheet of paper if necessary)

Personal Protective Equipment or Clothing Required: All field activities require basic protection including appropriate field clothing, hand protection, safety shoes/boots, and eye protection. Any additional PPE requirements based on the hazards identified as part of minimizing risk of exposure, injury or illness. (Check all that Apply)

- Safety Glasses
- Face Shields
- Hearing Protection
- Gloves _____
- Rain Gear
- Hard Hat or Sun Hat
- Work Boots
- Other _____

Respirator:
 Type:

 Cartridge/Filter Type

- Portable Eye Wash
- Emergency Shower
- Fall Protection
- Extraction Equipment (Confined Space)
- Other: _____

Section IV.

Emergency Plan/Procedure: Describe emergency response procedures in an event of an injury, exposure, severe weather or other emergency situation. Include emergency communication, evacuation plans, etc. (Attach separate sheet of paper if necessary)

Safety Training Required

___ First Aid/CPR	___ Biosafety / Zoonotic
___ Emergency Action Plan / Severe Weather	___ Radiation Safety
___ Project Specific Hazard Communication	___ Laser Safety
___ Worker Protection Standard / Pesticide Exposure	___ Agricultural Equipment Hazards
___ Compressed Gasses and Cryogenic Liquids	___ Tractor / Skid-loader
___ Heat Illness Prevention / Sun Safety	___ Combine / Harvest Safety
___ Dangerous Goods/Hazardous Materials Shipping	___ UTV / ATV Safety
___ Respiratory Protections	___ Livestock Handling Safety
___ Confined Space Entrant/Attendant/Supervisor	Other: _____