

RISK PREVENTION ON THE UIB'S EXPERIMENTAL FARM



**Risk Prevention Service of the University of
the Balearic Islands**

**The Biology of Plants in Mediterranean
Conditions Research Group
University of the Balearic islands**



The experimental farm at the UIB, along with its installations is an area dedicated to cultivating and studying plants. It is utilized for research across various disciplines, but it is mainly used by the research group studying the biology of plants in Mediterranean conditions at that UIB. It is also used for practical teaching in a range of courses in the bachelor's degree programmes in agro-food engineering and in biology as well as in many master's degree programmes offered by the UIB.

This variety of uses makes it difficult to know and control for all of the risks that could affect personnel and students. The present document describes the main risks that can be encountered on the experimental farm, but it must be remembered that other dangers may be present depending on the activities carried out.

In order to facilitate the implementation of these rules and oversee the use of machinery and installations, there is a **safety supervisor** for the experimental farm. The safety supervisor must always be informed **before** any and all potentially dangerous activities to be carried out on the experimental farm. The supervisor may prohibit activities from being carried out if they are not considered to meet the minimum safety requirements for users of the experimental farm. Responsibility for accidents shall in **no case** fall on the safety supervisor. Each user is responsible for making proper use of the installations and the machinery. In order for students or any other person not contracted by the UIB (visitors, grant recipients, collaborators, etc.) to access the experimental farm, the safety supervisor must be given **previous** notice of who the responsible member of the UIB's teaching and research staff is. This member of the teaching and research staff will be the sole person responsible for ensuring that students or persons under their charge receive appropriate safety training. For enrolled students completing practical coursework in master's or bachelor's degree programmes at the UIB, the responsible person will always be the professor in charge of said practical coursework.

To this end, the safety supervisor has an up-to-date list of persons who have been authorized to access the experimental farm and may require identification be presented or prohibit any person who has not received **previous** authorization. The authorization request for each new person must be made to Belen Escutia (belen.escutia@uib.es, extension 2069) by the UIB professor or researcher responsible for said person. For enrolled students carrying out practical coursework in bachelor's or master's degree programmes at the UIB, no authorization is required so long as the professor is present. If any tasks are to be performed outside of class hours or when the professor is absent, the professor must inform the safety supervisor **beforehand** that students from his/her class will be working on the experimental farm and he/she must describe what tasks will be performed.

The safety supervisor must receive **previous** notification of the introduction of any potentially dangerous chemical product to the experimental farm (this includes fertilizers and pesticides). Storage of such material in the farm's facilities also requires explicit authorization from the safety supervisor. Fumigation may **only** be performed by the safety supervisor or persons delegated to do so by the safety supervisor, as long as they have the appropriate knowledge and equipment. Pesticides used on the experimental farm must comply with UIB regulations regarding their use.

RISKS ON THE UIB'S EXPERIMENTAL FARM

(version no. 2 March 2015)

MOST FREQUENT RISKS	Page
1. Falls from different levels	3
2. Falls from the same level	4
3. Cuts and blows with tools	4
4. Overstrain	4
5. Electrical contacts	5
6. Health problems caused by organisms	5
7. Health problems caused by noise	5
8. Extreme temperatures	6
9. Health problems caused by chemical agents (use of pesticides)	6
10. Risks from farm machinery:	8
10.a. Tractor	8
10.b. String trimmer (weed eater)	9
10.c. Rototiller	10
10.d. Chipper	11
11. Emergencies	12

For more information on the risks present at your place of work, see the risk assessment.



When you encounter a risk that could affect you or others, communicate the matter immediately to your superior and to the Risk Prevention Service.

PREVENTIVE MEASURES

BASIC RULES

- No eating, drinking, or smoking in greenhouses or classrooms.
- Be careful and use the facilities, equipment, and machinery responsibly.
- Keep facilities tidy and contribute to cleaning your space and common areas.
- Bring up any doubt regarding the facilities with the safety supervisor and request instructions on how to use machinery, pesticides, etc.
- Avoid working alone on the experimental farm. Never allow students to work alone.
- Use the proper protective equipment for each task:

- ✓ **Closed-toe shoes**, at all times.
- ✓ **Steel-toed safety footwear**, when using machinery (tractor, string trimmer, etc.) or when handling heavy objects.
- ✓ **Cut- and pierce-resistant gloves**.
- ✓ **Gloves and a mask for chemical products** when using pesticides or toxic or corrosive products.
- ✓ **Hearing protection**, when using machinery that makes noise.
- ✓ **Safety goggles or a face shield**, when using machinery or equipment that could eject objects (string trimmer, etc.).
- ✓ **Clothing that covers the entire body**.
- ✓ **A hat with a visor and sun protection products**.



Personal protective equipment must be type-approved, and it must be kept clean and in pristine condition. See the manufacturer's instructions for information on the characteristics of each piece of equipment.

1. FALLS FROM A DIFFERENT LEVEL

Falls from climbing ladders, pruning trees, etc.

Rules regarding the use of ladders:

- The feet of the ladder must be situated on solid, even ground (free from branches, rocks, holes, etc.).
- Never step on the final rung.
- Face the rungs when going up and down and when working on the ladder.
- Never make dangerous reaches from the ladder.



- Never have objects in your hands when going up or down the ladder; instead, use a backpack or a tool belt.
- Folding ladders must have a mechanism that prevents them from opening during use.
- Check ladders often for cracks or signs of wear (especially if they are wooden ladders).

2. FALLS FROM THE SAME LEVEL

Falls caused by objects in transited areas, holes in the ground, uneven ground, tripping on rocks, etc.

- Do not leave tools, machinery, or waste behind in transited areas. Keep all materials ordered at all times.
- Always use closed, steel-toed footwear with an anti-slip sole.

3. CUTS AND BLOWS WITH TOOLS AND OBJECTS

Cuts and blows can be caused by using farm tools, working with branches and limbs, etc.

- Use durable gloves to hold and transport materials (branches, machinery, etc.).
- Use each tool exclusively for the job for which it was designed. Do not use tools that have defects. Keep tools clean and in pristine condition.



4. OVERSTRAIN

Caused by improperly lifting or transporting loads.

- Avoid handling or manually transporting loads weighing more than 25 kg. Whenever possible, use auxiliary resources (dollies, etc.) or ask for help from your peers.
- Never lift loads with your back bent; lift loads as follows:
 - ✓ Approach the load and spread your legs.
 - ✓ Bend your knees, keeping your back straight.
 - ✓ Grab onto the load with two hands.
 - ✓ Lift the weight using the strength of your legs.
 - ✓ In this way, your back should always be straight and aligned, and your arms extended.
- You should always try to be in the least stressful position when doing work in uncomfortable places.
- Avoid twisting your torso as it can subject the spinal column to undue stress.

SÍ



NO



5. ELECTRICAL CONTACTS

Coming into contact with or handling motors, the wiring of machinery, or when water is present in areas with wiring.

- Check on the state of the machinery before using it. Never make use of wires in poor condition (stripped), and never put electrical tape on wires (wires in poor condition must be replaced).
- Keep machinery in dry places and do not allow them to get wet. Do not use machinery when wet.
- The handling and repair of machinery must be carried out following the manufacturer's indications in the manual.
- Do not touch a person being electrocuted, disconnect the current, and if this is not possible, separate the person from the current with an insulated object (wood).



6. HEALTH PROBLEMS CAUSED BY ORGANISMS

From the possible presence of fungi, mites, or other species that could cause allergies or health problems.

- Personal hygiene is very important: you must shower every day, and wash your hands and face before eating or smoking. Wash work clothes every day.
- At the end of the day, make sure that you do not have any ticks. Ticks can also transmit diseases.

7. HEALTH PROBLEMS CAUSED BY NOISE

From noise caused by machinery (chipper, tractor, string trimmer, rototiller, compressors, etc.): Royal Decree 286/2006.

- Use hearing protection when using equipment that makes noise.
- We periodically measure the greenhouse technician's exposure to noise, and the daily equivalent noise level is over 80 dB(A). Workers who are exposed to this level of noise daily must undergo periodic medical examinations. They must also have hearing protection at their disposal.

8. EXTREME TEMPERATURES

Exposure to extreme environmental temperatures:

- Summer heat: dehydration, heat exhaustion, heat stroke. Can be fatal.
- Winter cold: hypothermia.



Prevention in the summer:

- Drink liquids often in order to avoid dehydration. Drinking alcohol is prohibited.

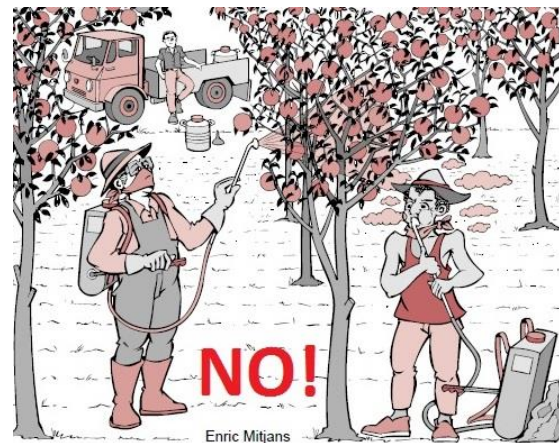
- Preferably, avoid working outside when the sun's rays are strongest (between 12:00 and 16:00). And if you must do work outside during these hours, take a break every hour in an air conditioned place.
- Protect yourself from the sun with sun cream and use a cap or a hat.
- Take frequent breaks in the shade or in an air conditioned place.

Prevention in the winter:

- Wear protective, insulated clothing that does not inhibit working.
- Take breaks in heated places and consume hot drinks and food.

9. HEALTH PROBLEMS CAUSED BY CHEMICAL AGENTS: USE OF PESTICIDES

- Inform the safety supervisor before using any chemical products, as he/she must authorize their use and certify that the user may apply such products.
- All persons that apply such products **must** have the pesticide handling licence issued by the Ministry of Agriculture.
- Always follow instructions given on labels and read the chemical safety information sheet for the product.
- Store chemical products in the proper location and place them on the trays. These products must always be properly labelled.
- Use appropriate protective equipment: single-use waterproof coveralls, waterproof gloves, a mask with a chemical filter appropriate for the products that are to be used, and safety goggles.
- Never use containers that do not have a label indicating the contents or containers designed for other uses (e.g., water bottles).
- Never clean the opening of application equipment by blowing or sucking with your mouth.
- Avoid spraying when it is very windy. Chemical products should always be applied with your back to the wind.
- Eating, drinking, and smoking are strictly prohibited during chemical applications.
- You must wash your hands and face before smoking, eating, or drinking. You must shower after applying chemical products.
- If there is a spill, clean it up as quickly as possible with absorbent materials (vermiculite, etc.). Afterwards, clean the area with abundant soap and water.
- In case of poisoning, see a doctor immediately and bring the label of the product.
- Residual pesticides must be kept in the appropriate containers and must be disposed of by the waste management service contracted by the UIB.



10. RISKS FROM FARM MACHINERY

10.a. TRACTOR

Risks:

- Cuts, blows, or entrapment in moving parts
- Overturning the tractor and getting pinned
- Being run over
- Noise

Preventive measures:

- The safety supervisor must provide previous authorization for its use.
- Only persons qualified and trained in its use may use the tractor.
- Handle fuel carefully and avoid spills as it is flammable.
- Always use safety devices (anti-roll bar, elements that protect moving parts, etc.). Removing these safety devices is strictly prohibited.
- Use only appropriate, type-approved devices to hitch trailers and other equipment.
- Use of the **seat belt** is mandatory in order to minimize the consequences of accidents (e.g., overturning the tractor).
- All maintenance and cleaning must be performed while the tractor is turned off.
- When circulating with the tractor on roads, the lights must be turned on and warning signs must be used.
- **Maintenance:** proper periodic maintenance must be carried out on the tractor (wheels, lights, brakes, level of liquids, etc.) in line with the manufacturer's specifications.



Be ready in case there is an emergency:

- You must be prepared for a possible accident. Agricultural and forestry vehicles must have a fire extinguisher.
- Have a first aid kit on hand.
- You must always carry a communication system with you, a mobile phone for example, in order to communicate potential emergencies.

PROTECTIVE EQUIPMENT THAT MUST BE USED WITH THE TRACTOR

- Safety footwear
- Hearing protection
- Well-fitting work clothes and reflective clothing
- Durable gloves when needed

10.b. STRING TRIMMER (WEED EATER)

Risks:

- Ejection of clippings, rocks, etc.
- Cuts and blows
- Noise

Before starting the machine:

- Make sure that all protective elements are correctly installed and in good condition. It is strictly prohibited to remove these elements from the machines.
- Take a look at the terrain and check for rocks or stones, branches, holes, etc. before starting your work.
- Make sure that the cutting disc is not coming into contact with any piece of the machine.
- Fill the gas tank in a well-ventilated area and clean up any spilled fuel. Start up the machine 3 meters from the place where fuelling took place and never in closed places.

Rules of use:

- The safety supervisor must have authorized its use.
- Only persons with appropriate training may use the machine.
- See the manufacturer's manual for information on maintenance and correct usage: changing pieces, etc.
- You must always be stable and stand firmly upright. Hold the machine with two hands.
- While the machine is running, keep the cutting part below your waist and away from your body. Keep your hands away from the cutting blade.
- The motor must be turned off during fuelling.
- When using the machine, make sure that there is no one nearby in order to avoid injuries from ejected stones. If necessary, shut down the machine.



Method of operation:

- On uneven terrain, move parallel to the slope.
- Use the accessories and methods appropriate for each type of work to be performed.

PROTECTIVE EQUIPMENT THAT MUST BE USED WITH THE STRING TRIMMER

- | | |
|--|---|
| <ul style="list-style-type: none"> • Safety footwear • Hearing protection • Harness for holding the machine | <ul style="list-style-type: none"> • Face shield • Durable gloves • Well-fitting clothes and reflective clothing |
|--|---|

10.c. ROTOTILLER

Risks:

- Entrapment
- Cuts or blows
- Ejection of trimmings, rocks, etc.
- Noise

Preventive measures:

- The safety supervisor must have authorized its use.
- See the manufacturer's manual for information on maintenance and correct usage: changing pieces, etc.
- Handle fuel with care, as it is flammable.
- All maintenance and cleaning must be performed while the machine is turned off.
- Make sure that the rototiller is in perfect condition before using it.
- Make sure that all protective elements are correctly installed and in good condition. It is strictly prohibited to remove these elements from the machines.
- Start the rototiller up on the flattest ground possible.
- Avoid having the machine move backwards.
- Turn the machine off to make any adjustments to it.
- While the rototiller is turned on, make sure that no one is nearby.
- If the rototiller sinks into soft ground, be very careful when taking it out as this can lead to serious entrapments and slips.



PROTECTIVE EQUIPMENT THAT MUST BE USED WITH THE ROTOTILLER

- | |
|--|
| <ul style="list-style-type: none"> • Safety footwear • A helmet with a face shield • Hearing protection • Durable gloves • Well-fitting clothes and reflective clothing |
|--|

10.d. CHIPPER

Risks:

- Ejection of trimmings or objects from the ground (e.g., rocks)
- Entrapment and cuts
- Noise

Preventive measures:

- Handle fuel with care, as it is flammable.
- Ensure that the chipper is in perfect condition before using it and that all of the protective elements are installed. It is strictly prohibited to remove these elements.
- It is strictly prohibited to touch any part of the chipper while it is running.
- Before turning the chipper on, make sure that all of the brakes are activated.
- Avoid touching the parts of the chipper that can overheat during its use.
- See the manufacturer's manual for information on maintenance and correct usage: changing pieces, etc.
- All maintenance and cleaning must be performed while the machine is turned off.



PROTECTIVE EQUIPMENT THAT MUST BE USED WITH THE CHIPPER

- Safety footwear
- A helmet with a face shield
- Hearing protection
- Durable gloves
- Well-fitting clothes and reflective clothing

11. EMERGENCIES

If you come across an emergency (fire, smoke, injuries, etc.):

- Advise the porters (if it is out of the workday timetables, call 112)
- Then, try to tackle the situation, without putting yourself at risk, until help arrives.

If the emergency involves a fire or a gas leak:

- Turn off machinery and dangerous equipment.
- Close the doors, and evacuate the area.



Fires can be caused by the presence of flammable products, electrical short circuits, etc.

- The burning of trimmings at the UIB is **not** permitted.
- Do not store flammable products near machinery; keep them in the chemical products cabinet.
- Do not overload electrical sockets.
- Use of fire extinguishers:
 - ✓ ABC powder extinguishers: work for paper or wood fires, flammable liquid fires, and butane and propane gas fires. It is also useful for fires where there are low-tension electrical installations present, but the powder can ruin electronics.
 - ✓ Carbon dioxide (CO₂) extinguisher: appropriate for fires where electrical installations are present (distribution boards, computers, etc.). It should not be used on people, as it comes out at -70°C.



Accidents:

- If you are splashed with a chemical product, use the eyewash station for a few minutes and then seek medical attention.
- If you have been injured, poisoned, burned, etc. seek immediate medical attention.
- Medical attention is available on campus on school days from 08:00 to 17:00. Outside of these times, go to the hospital or call 112.

EMERGENCY TELEPHONE NUMBERS

- Porters' office in the Guillem Colom Casanovas building: 3181
- Medical attention: 3461
- Risk Prevention Service technicians: 63328
- Security: 670 21 83 15
- Emergency (firefighters, ambulance, etc.): **112**