

DENVER BOTANIC GARDENS

Horticultural Chemicals Policy

Horticultural chemical acquisition, documentation, storage and use of pesticides at all Denver Botanic Garden locations shall be governed by this policy.

- I. Implementation of the Horticultural Chemicals Policy (HCP).
 - A. The Chemical Task Force (CTF) is the Safety Team for horticulture chemicals and designated by the Director of Horticulture. Horticultural chemicals are defined as all herbicides and pesticides including all “organic” treatments that fulfill similar objectives. It shall be the responsibility of the Chemical Task Force (CTF) to implement this policy. This policy may be amended or revised only by the CTF with the approval of the Director of Horticulture.
 - B. Any employee who fails to adhere to this policy will be subject to disciplinary action. Any contractor who fails to adhere to this policy will be subject to dismissal with no contractual liability occurring to the Denver Botanic Gardens. This shall be written into the contract with each pesticide applicator contractor. Any employee who has knowledge of failure to adhere to this policy shall report that failure to the CTF.
 - C. Current and updated copies of the HCP will be provided to all staff on the shared drive, in the folder Chemical Task Force.
 - D. Any contractor who applies horticultural chemicals shall schedule application times and specify chemicals to be used to the horticulture department. The contractor will provide appropriate notice of no less than 24 hours. Contractor must receive confirmation from approved horticulture staff before application. The horticulture staff receiving this notification must forward scheduled information to all horticulture department staff.
 - E. Failure to read the HCP in no way absolves any employee or contractor from following its instructions.
- II. Acquisition and documentation of horticultural chemicals.
 - A. Purchase requests for all horticultural chemicals must be submitted for approval to the CTF for ordering.
 - B. Each purchase request will include a request of the supplier to provide a current Material Safety Data Sheet (MSDS). The CTF will keep these original documents stored with the Chemical Use Logs and make copies for staff as needed.
 - C. Upon arrival, each new horticultural chemical container shall be clearly dated with waterproof marker and inventories updated.
 - D. The CTF shall be responsible for taking inventory of all horticultural chemicals, MSDS documents and associated supplies biannually in the months of July and December.
 - E. The CTF shall keep all dated material for reference for a period of not less than ten years.

III. Storage of Horticulture Chemicals (HC)

A. Locations

1. Horticulture chemicals shall be stored in the Chemical Storage room in the headhouse hallway room # 228
2. Chemicals pertaining to tissue culture shall be stored in cabinets in the Tissue Culture Lab room # 233

IV. Security and Safety

A. All cabinets and rooms designated for HC storage shall:

1. Remain locked at all times when not actually in immediate use. No employee, having unlocked an HC storage area, shall leave that area unlocked while he or she is not in immediate attendance.
2. Have clearly marked on outside doors that they contain chemicals.
3. Keys to restricted areas will be issued to Operations and Horticulture supervisors.

V. Personal Safety

A. All applicators must read the chemical label prior to application and follow any and all instructions.

B. All applicators shall be provided with and be required to wear protective gear as required by the product label and MSDS sheet. Protective gear could include the following:

1. Chemical resistant gloves
2. Long sleeves
3. Pants
4. Protective boots
5. Safety goggles
6. Respirator approved for the situation and for pesticide being used.
7. Chemical resistant coveralls or pants and jacket with hood.

C. Following chemical application, the applicator shall thoroughly wash exposed skin areas with soap and water.

D. After the application of the pesticide, the applicator shall clean and store all protective gear in a safe and appropriate manner.

VI. Training

A. All employees who apply horticulture chemicals shall be properly trained in the use and safety procedures while handling HC's. Training shall include, but not be limited to, the following:

1. First Aid
2. How to read and understand a label
3. How to properly mix and apply pesticides
4. Where safety equipment is stored and how to use it
5. How to properly clean and store equipment after each use
6. How to respond to and clean up a spill
7. Proper procedures for record keeping of pesticide applications

8. How to read and understand a MSDS

VII. The CTF shall assure that all employees are properly trained by giving staff updates on horticulture chemical use on a regular basis, preferably at horticulture department meetings.

A. Posting

B. Before applying a pesticide, the applicator shall post all entrances to the area where the application will be made with signs that shall state the following:

1. Chemicals have been applied.
2. The trade name of the pesticide used
3. Statement indicating the time for safe re-entry.

C. These signs will be removed at the time for safe entry into the area.

VIII. Use of Horticulture Chemicals

A. Horticulture chemicals will be used in a safe manner according to the label directions.

B. HC's will be applied at times when the gardens are NOT open to the public, with the exception of lockable greenhouses.

C. Seasonals may apply HC's only under the direct supervision of supervisors.

IX. Mixing and application of HC's

A. HC's shall be mixed at rates according to the label directions.

1. Separate equipment will be labeled and provided for certain herbicides, fungicides and pesticides.

2. Applications of baits, self-contained attractant pesticides (i.e. "roach motel" or mouse bait) or ready to use pesticides, that do not need to be mixed, will be applied and used as stated on the label.

B. All measuring and mixing of HC's shall happen in the service yard, head house or greenhouse where the application is to be made.

C. The applicator shall remain with all application supplies and equipment until the application is completed and all equipment is cleaned and properly stored

X. Clean up

A. Immediately after use, the applicator shall rinse all mixing/ measuring tools and equipment. This rinse water shall be deposited in the application container and this water will form a component part of the solution to be applied.

B. After use, the applicator shall rinse all application equipment according to label directions and apply this rinsate solution to an appropriate area.

C. All equipment, HC's and spill/ safety gear shall be returned to their proper storage areas immediately after use.

D. Emptied pesticide containers shall be rinsed and emptied and then disposed of according to label directions.

XI. Record keeping

A. Before every application of any HC, the applicator shall record the application as designated by the CTF. This recording system will include, at a minimum, the following:

1. Name of applicators

2. Trade name of pesticide
 3. Mixing rate
 4. Total amount of pesticide applied
 5. Date and time of application
 6. Crop and location of application
- B. The CTF shall keep all records of application for at least five years.

XII. Spills of HC's

- A. Spill response kits are located in the Chemical Storage room, and in the boiler room.
1. "Spill pillows" are available for liquid spills and plastic bags are available for dry spills.
 2. Each spill when cleaned up shall be disposed of according to label and MSDS directions.
 - a. Each HC "has a reportable quantity" (RQ) rate that must be reported to the EPA if spilled. The CTF is responsible for reporting HC spills that equal or exceeds the RQ rate.
- B. All persons in the immediate area of the HC spill shall be notified of the spill immediately and must remove themselves by at least 50 feet from the spill site until it is cleaned up.
- C. Spills shall be cleaned up immediately by using the following process:
1. Unmixed dry HC's shall be swept up and re-used if possible, and if not possible, then placed in a plastic bag that is securely closed and disposed of according to the label and MSDS directions
 2. Liquid HC's shall be soaked-up with a "spill pillow" or disposable material (such as cat litter or sawdust) and then placed in a plastic bag that is securely closed and disposed of according to label and MSDS directions.
- D. Any person using HC's shall immediately report any incident of spills to their supervisor or a member of the CTF.
- E. Supervisors shall report to the CTF, in writing, incidents of spill by any employee or contractor under their charge.