

Compound 1080 Livestock Protection Collar

4. Handling LP collars and contaminated animal remains, vegetation, clothing, water and soil.
 - a. The toxic solution in the LP Collar contains a yellow dye, tartrazine, which is used as a marker for the presence of 1080 on punctured, damaged or broken collars; on clothing, animal remains, vegetation, soil, or other materials; and in water. Always use waterproof gloves when handling collars or any materials known to be contaminated by 1080.
 - b. Inspect carcasses of LP collared animals to determine the cause of death. When the carcasses are fresh (within 24 hours after death), coyote kills usually are obvious (photo 17). Remove punctured collars carefully and examine the punctures. Holes made by coyote teeth usually can be distinguished from accidental punctures. When collars are punctured by cactus thorns, the thorns sometimes remain in the holes (photo 18).
 - c. If the LP collar was punctured, remove it carefully to minimize leakage and place in a leakproof plastic bag or other container for transport to your disposal site. If necessary, double-bag to prevent leakage. Examine the carcass for contamination as indicated by yellow dye. Cut away the contaminated parts for disposal along with the punctured collar. See Section II, 12-13. Dispose of the remainder of the carcass using your normal practice. Cut or dig up contaminated forage and soil and place them in a leakproof container for transport to the disposal site.

- d. If the LP collar was not punctured, save it for reuse on another animal. Dispose of carcass using your normal practice. No special handling is required. If an unpunctured collar has only minor damage to straps or fasteners, the applicator may repair it.
- e. When predation has stopped, or when LP collars are to be taken off for other reasons such as shearing, gather the collared flock into a corral. Hold each animal and inspect its collar for punctures. Loosen the neck straps and pull them free. Do not pull so hard that you rupture the collar (photo 7). It may be necessary, particularly with Angora goats, to use a knife or scissors to free collar straps from the animals' hair. Clean unpunctured collars as necessary and return them to locked storage until you need them again.
- f. If clothing becomes contaminated with 1080 solution, remove it promptly. Wash clothes before wearing them again. Contaminated leather clothing, including gloves and footwear, should be disposed of in the same manner as contaminated animal remains because pesticides cannot be easily cleaned from leather. See section II. 13.

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5. Disposal of damaged LP collars and other contaminated materials.

- a. Damaged, punctured, or leaking LP collars, contaminated animal remains, vegetation, soil, water and leather clothing must be properly disposed of. The preferred method is by deep burial under 3 feet of soil in a safe field location at least one-half mile from human habitations and water supplies. For disposal on the ranch, it may be convenient to drill several deep holes using a mechanized post hole auger, or to make a trench with a backhoe. Then, as waste materials are produced, they can be dropped into the hole or trench and covered with earth. Not more than 10 collars may be buried in any one hole. If buried in a trench, each group of ten collars must be at least 10 feet apart.

Incineration may be used instead of burial for disposal in the field (preferably on property owned or managed by the applicator) at least ¼ mile from human habitation and water supplies. Place collars and wastes (listed above) in an incinerator or refuse hole, saturate with diesel fuel, and ignite. Attend the burn until the contaminated material is completely consumed.

Alternatively, contact your State Pesticide or Environmental Control Agency or the Hazard Waste representative at the nearest EPA Regional Office for guidance in disposing of wastes at approved hazardous waste disposal facilities.

- b. When snow or frozen ground make on site disposal impractical, up to one cubic foot of wastes may be stored in a leakproof container, in a dry, locked place for up to 90 days.

E. DIRECTING COYOTE PREDATION TO LP COLLARED LIVESTOCK

1. General Comments

The process of directing coyote predation to LP collared livestock is called targeting. Knowledge of targeting is in its infancy and should improve as more people gain experience with LP Collars. Three different approaches for targeting strategies are described here. Ranchers and predation control specialists are encouraged to apply these methods as necessary to achieve the best results in their own circumstances.

2. Targeting Strategies

- a. Place LP Collars on vulnerable livestock. Collaring all sheep or goats on a ranch would solve the targeting problem. This strategy has not been tested due to the cost of collars and the large number that would be required in large flocks (over 100 animals). Nevertheless, in small flocks (50 or fewer animals) it may be practical to collar all the lambs or kids. In flocks with 50 to 100 lambs or kids, it may be worthwhile to collar the smallest 20 to 50 individuals. Do not use more than 20 collars in any pasture under 100 acres, or more than 50 collars per square mile of fenced pasture.

Use target (LP collared) flocks. When coyotes are killing in particular pastures, remove all vulnerable livestock. Place 20 to 50 collared lambs or kids with their mothers in the pasture while all other vulnerable animals are penned at night or moved elsewhere. Add uncollared adult sheep or goats to the target flock to increase its total size to 50 or 100 head. If coyotes have been killing adult sheep or goats in the area, both adults and kids in the target flock should be collared. Remove collars 30 days after predation ceases, or whenever the risk of predation has abated.

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This was the strategy used in most field tests and is the usual approach when LP collars are introduced onto a ranch where depredation is in progress. This strategy also can be employed by placing collared flocks in vacant pastures 1 to 2 months before large bands of sheep or goats arrive.

- c. Collar vulnerable individuals in large flocks. Coyotes usually prefer kids or lambs to adult goats or sheep. Experience with Angora goats has shown that if a few collared kids are placed in wether flocks (5-10 collared kids per 100 uncollared adults), coyotes will select the kids (photo 29). As this strategy has not been tested on sheep, it is not recommended for sheep at this time.

3. Mistakes in Targeting

As with any new technique, one must learn how to use LP Collars before optimum results can be expected. Following is a list of some mistakes commonly made by persons learning this technique:

- a. Placing collars where effective targeting cannot be expected. In one example, 20 lambs were collared in a ewe-lamb flock containing hundreds of lambs. Coyotes subsequently killed the uncollared lambs. Effective targeting did not occur because collared lambs were far outnumbered by uncollared lambs that were equally attractive to coyotes.

¹Wethers are castrated male goats.

- b. Placing collars where predation is too infrequent. In one such case, collared sheep were exposed for four weeks during which no predation occurred. The users then lost interest and removed the collars. There was no further predation on this ranch for several months. Collars cannot be used effectively where there is little or no predation.
- c. Using target flocks that are too small. In a Montana trial, six LP-collared lambs were placed in a 640 acre pasture. Coyotes passed through the pasture without finding the collared animals and then killed sheep from a large flock in an adjacent pasture. The larger the flock, the more likely it is to attract coyotes. The optimum size for target flocks has not been determined, but pastures of 100 acres or more should probably contain at least 50 head.
- d. Using target flocks that are not sufficiently isolated from uncollared livestock. On one small farm, a group of ewes and LP collared lambs was exposed while other sheep on the place were penned each night. Instead of killing in the collared flock, coyotes switched to a neighbor's unprotected flock half a mile away. With small farm flocks, adjacent land owners may have to work together to achieve effective targeting.
- e. Using collars of the wrong size. When small LP collars are used on large sheep or goats, the throat region is inadequately covered (photo 10). Coyotes frequently kill these animals without puncturing the LP collars.

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- f. Attaching collars improperly or insecurely. When LP collars are attached improperly, or they slip out of position (photo 13), coyotes will kill these animals but are unlikely to puncture the collars. LP collars in proper position are shown in photos 4, 5, 6, 11 and 16.
- g. Placing collars on sick or cull animals. Placing collars on sick or cull animals in an effort to avoid sacrificing more valuable livestock may be false economy, as coyotes may not attack ill or lethargic animals. Collars should be used only on animals of the size and kind that coyotes have been killing locally.
- h. Greatly increasing level of human activity on ranch while collars are in use. Coyotes often are wary of unusual activity and may temporarily stop killing because of it. Collars should be placed and monitored with a minimum of disruptive activity.

SECTION II. USE RESTRICTIONS

1. Use of LP collars shall conform to all applicable Federal, State, and local regulations.
2. LP collars shall be sold or transferred only by registrants or their agents and only to certified Livestock Protection Collar applicators. Collars may be used only by specifically certified Livestock Protection Collar applicators or by persons under their direct supervision.²

² "Direct Supervision", as described in this restriction, conforms to the requirements established under 40 CFR 171.6.