MANAGEMENT NOTES

Native Plants Poisonous to Humans

ROBERT E. STEGER

Extension Range Management Specialist, Cooperative Extension Service, New Mexico State University, Las Cruces, New Mexico.

The general public appears to be rather shocked when someone is poisoned on a plant. An article in *Emergency Medicine* (1970, May:17-41) by J. M. Arena indicates that data from a survey of Poison Control Centers in the U. S. revealed that there were 3,278 reported plant poisonings in 1968. This figure was projected to 15,000 poisoning cases with probably 100 deaths for all the U. S. during that year based on the number of Poison Control Centers to other hospitals. Plant poisonings rank seventh when compared to other sources of poisonings.

An article in the *Archives of Environmental Health* (Vol. 9:216-242) by Shirley O'Leary revealed that there are at least 250 recognized species

of poisonous plants. Humans do not usually come into contact with these plants. Most of the research on poisonous plants has been conducted from a grazing animal standpoint since plants that are poisonous to livestock are usually poisonous to humans.

It would appear that the plant poisoning problem is increasing in the United States. This is probably a result of three causes: (1) the search for natural plant materials as food; (2) the search for hallucination producing effects by thrill seekers; (3) the natural curiosity of children. Almost three-fourths of all poisonings occur to children.

There are several poisonous plants that a person may commonly encounter on forests and rangeland when camping, hiking or picnicking. No good rules-of-thumb exist on how to tell poisonous plants. The fact that birds or wildlife eat them does not mean they are safe for humans. The only way to be sure is to know the plants.

A summary of the toxic principles, the plants, toxic parts, symptoms and some general comments for several commonly toxic plants follow.

Some Poisonous Native Plants

Type of poisoning and plant	Poisonous parts	Symptoms
Alkaloid poisoning — Both green and dry plant parts toxic.		
Nightshades (<i>Solanum</i> species)	All parts, but immature fruit most dangerous	Fatal. Intense digestive disturbances and nervous symptoms. Children are attracted to the tomato-like fruit.
Larkspur and Lupine (<i>Delphinium</i> and <i>Lupinus</i> species)	Young plant and seeds	Digestive upset, nervous excitement, depression. May be fatal. Selected for natural food, especially the seed.
Monkshood (<i>Aconitum napellus</i>)	Fleshy roots and seeds.	Digestive upset and nervous excitement. Selected for a natural food, especially the seed.
Veratrum (<i>Veratrum</i> species)	Leaves	Watering of mouth, vomiting, diarrhea, stomach pains, general paralysis, fall in temperature, convulsions and death due to asphyxiation. Can also cause malforming effects. The leaves resemble cabbage and are collected as natural food.
Death Camas (<i>Zygadenus</i> species)	Bulb or root	Fatal. Salivation, muscular weakness, hypotension. Often confused with wild onion or wild garlic.
Poison Hemlock (<i>Conium</i> species)	All parts	Fatal. Weakness, drowsiness, nausea, vomiting, labored respiration, paralysis, asphyxia. The roots are most toxic and are confused with parsnips; the leaves are mistaken for parsley and the fruit for anise.
Organic acid poisoning — A result of the action of the acids in the plant on human tissues.		
Wild Rhubarb (<i>Rheum</i> species) Contains Oxalic Acid, one of the organic acids.	Leaf blades	Fatal. Large amounts of raw or cooked leaves can cause convulsions, coma, followed by rapid death.
Oak (<i>Quercus</i> species) Contains Tannic Acid, one of the organic acids.	Foliage or acorns	Affects kidneys gradually. Symptoms appear only after several days or weeks. Large amount is required.

Some Poisonous Native Plants (Cont.)

Type of poisoning and plant	Poisonous parts	Symptoms
Prussic acid poisoning — A result of cyanide poisoning being released in the various plant parts and at the start of growth or after freezing, crushing or wilting.		
Cherry or Peach	Twigs and foliage	Fatal. Gasping, excitement and prostration are common symptoms, after appearing within minutes. May be found growing wild around old homesteads.
Fungi poisoning — Causes pathogenic, allergenic or toxic problems.		
Mushrooms (Some <i>Amanita</i> species)	All parts	Fatal. Several symptoms may occur, including vomiting, diarrhea, and mental disturbances. The type of poisoning varies with the species, so positive identification is necessary, but very difficult.
Nitrate poisoning — An accumulation of nitrates in the plant after a warm, clear day followed by a cold night and cloudy morning.		
Lambsquarter (<i>Chenopodium</i> species)	Leaves and base of stems	Acute toxicity and asphyxiation at the cellular level. Plant collected for a food source of greens.
Other poisonous substances		
Mistletoe (<i>Phoradendron</i> species)	Berries	Fatal. Contains an amine that is toxic. Symptoms similar to those caused by digitalis, which affects the nervous system.
Buckeye (<i>Aesculus</i> species)	Seeds	Contains several toxins. Inflammation of mucous membranes, vomiting, stupor, paralysis sometimes.
Mescalbean (<i>Sophora secundiflora</i>)	Seeds	Contains an alkaloid similar to bysine. Causes intoxication characterized by excitement and delirium followed by deep sleep for two or three days. May cause death when ground. Selected for hallucination producing effects.
Water Hemlock (<i>Cicuta masculata</i>)	All parts	Fatal. Diarrhea, violent convulsions and spasms, tremors, extreme stomach pain, vomiting, dilated pupils and delirium. Similar to poison hemlock.
Locoweed (<i>Astragalus</i> and <i>Oxytropis</i> species)	Leaves	Contains selenium where soils naturally high in selenium. Toxicity of the ingested plant or brain damage from smoking.