

Indigenous Cultural Practices and Modern-Day Pesticide Use

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Native Americans in California have used plants for thousands of years, they are cultural practitioners.

Foussat family multipurpose basket with waterfall design, 1887

Pesticides threaten cultural practitioners who gather native plants



- **BASKET MAKERS** unknowingly gather material in areas that have been sprayed
- **FOOD GATHERERS** collect acorns, berries, mushrooms, and other plants that have been exposed to pesticides
- **MEDICINE GATHERERS** in rural areas collect elderberry blossoms, chia, yerba mansa, and other natives for medicinal uses in areas that have been sprayed



Basketweavers use hands, mouth, teeth, and lips in plant processing for baskets



- Preparing basket materials for weaving involves peeling the bark from the shoots or roots with the **lips** and **teeth**, increasing risk of ingesting pesticide residues.
- Weavers also use their **teeth** as a third hand and **chew** the ends of roots and sticks to prepare them to be added to the basket.

Pesticide exposure has been linked to the following:

- Leukemia
- Lymphoma
- Soft Tissue Sarcoma
- Brain, Bone, Stomach Cancer
- Parkinson's Disease
- Generational transmission
- Reproductive viability



- Skin and Eye Irritation
- Headaches
- Dizziness
- Nausea
- Muscle seizures
- Death

Bolognesi, C. Pesticides: Human Health Effects. Journal of Toxicology. Vol. 307, pp. 136-145. 2013.

Woven baskets may contain pesticides

Baskets are used for

- cooking
- eating
- wearing as caps
- regalia
- baby carriers
- rattles

Pesticide residues can remain in plant material for a year or more.



Pesticides affect more than agricultural crops

Spraying occurred during a juncus gathering activity

In San Diego County pesticides are widely dispersed at various times throughout the year to:

- Control undesirable insects or disease.
- Clear unwanted vegetation along roadsides.
- Control weeds and shrubs on private property.



Deborah Small

2012 spraying in Rainbow, CA.

California Indian Basketweavers Association

CIBA is a non-profit organization whose goal is to preserve, promote, and perpetuate California Indian basket weaving traditions while providing a healthy physical, social, spiritual, and economic environment for basketweavers.

CIBA Policy Statement on Pesticides

"The California Indian Basketweavers Association is opposed to the use of pesticides. We have adopted this position for the following reasons:

- The web of life that connects all living things is harmed when poisons are applied to our environment.
- The biological diversity of our forests and wetlands is diminished when pesticides are used to eliminate plants that do not have commercial potential.
- Many of these same plants provide us with our foods and teas, are used in baskets and for healing, ceremonial and other traditional purposes. When we harvest and use these plants, or take fish or game, we want to know that they are free of poisons. We want the assurance that we are not endangering our health or that of our children and unborn generations.
- Pesticides contribute to the poisoning of water tables and watersheds and the destruction of fisheries.
- The licensing and regulation of pesticides favors pesticide manufacturers and users over public health and environmental well-being. The long-term effects of pesticides now in use are not known. There is mounting evidence that pesticides are contributing to an increase in human cancers and to reproductive disorders throughout the animal kingdom.
- Timber can be grown profitably without the use of pesticides. The hand labor involved in site preparation and thinning can be a source of forestry jobs at a time when they are badly needed. The Hupa Tribe in northwest California manages a profitable timber industry on tribal lands, where pesticides were banned in 1978.
- We condemn the policy of acceptable risk, which maintains that there is an acceptable level of human suffering and environmental degradation that can be balanced out by the benefits of using pesticides. The cost of pesticide use to people, wildlife and ecosystems is immense, often personal and tragic, and can never be justified by economic gain."

Tribal Pesticide Program Council

TPPC is a forum where tribal pesticide and environmental officials can raise pesticide program implementation issues to EPA, offer input on national pesticide policy that affects tribes, offers a network for tribal pesticide officials to share information, and promote and enhance tribal pesticide program development

Expected outcomes of working with the TPPC include:

- Increased partnerships between EPA and tribes involved in various aspects of pesticide regulatory programs
- improved understanding for EPA on tribal pesticide concerns to more effectively protect human health and the environment in Indian country and Alaska Native Villages
- Enhanced capabilities of tribal participants through increased knowledge of how to implement quality pesticide programs, leading to better protection of human health and the environment in Indian country and Alaska Native Villages

IPM Can Play a Role in Education about Pesticides

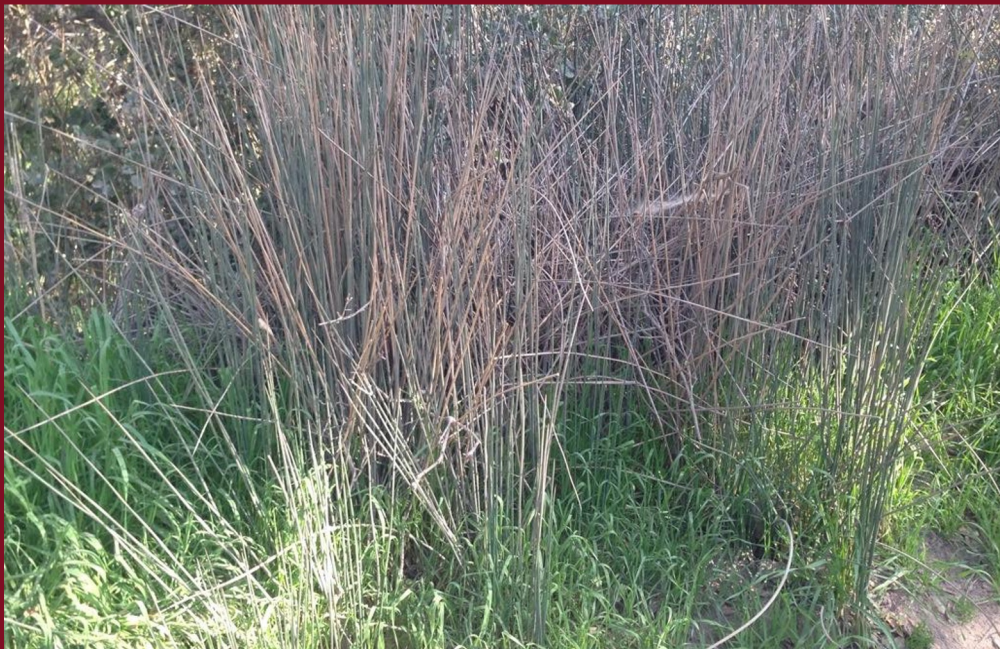
- Support communication and collaboration between National Forest Service, Bureau of Land Management, and State Parks personnel regarding native plant habitats
- Notify and ensure notification of spraying, especially in native plants habitats
- Articulate with Native American organizations to address needs and access
- **Generate educational materials** and collaborative events to raise awareness about the dangers of pesticides to native plant users

IPM Can Play a Role in Education about Pesticides

IPM needs to work with cultural practitioners to generate educational materials and workshops regarding plant gathering, processing, weaving, and use as these traditional practices involve pesticide exposure.

Cultural practitioners deserve the assurance that the health of our children and unborn generations will be protected from harmful pesticide uses in the coming future on public and private lands.

Signs of Possible Exposure to Pesticides in Native Plants



Wilted, Dropping,
or Burnt Looking
Leaves

Patches of dead or
deformed looking
plants

Pinkish tint on
plants



Gathering Juncus -primary material for baskets



Juncus bundles from
Rainbow, CA for baskets

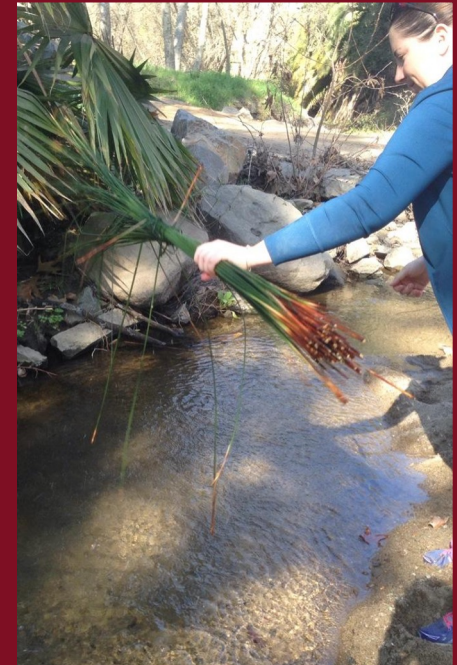


Basketry workshop Anza, Ca.

Students Gathering Juncus in Carlsbad



After gathering the Carlsbad plants are cleaned to make green baskets for carrying



Deergrass

used to form the coils of the basket structure



Harvesting deergrass on Palomar Mountain and in the Laguna Mountains

Sumac is an important color and strength component of baskets



Native Americans are aware of the presence and effects of pesticides, but **more education needs to take place.**

Native American Organizations are already addressing the issues of pesticide exposure in weaving workshops

CIBA is actively engaged in:

- Applying for grants and funds for education
- Working closely with NFS, BLM and other government agencies regarding gathering policies
- Working closely with universities (eg. Cal State University San Marcos, University of Illinois, and University of California Davis)
- Raising public awareness with websites, handouts, brochures and workshops



Cultural practitioners need more than booklets, newsletters, and brochures.



Baskets Woven with Green Juncus



Mark Farris, Luiseno basket weaver, using traditional materials



Workshops: Native Americans already play a role in pesticide education while teaching about traditional cultural practices

Diania Caudell
teaching middle school
children about the uses
of native plants and
pesticide exposure.
Escondido, CA. 2015



CSUSM
Students
Weaving in
the Field



Educational Workshops: Third Graders Weaving Cane Baskets in San Elijo, CA



Basket weaving workshop using twine instead of native materials due to access and pesticide exposure issues.



CIBA and Education: Plant use and Pesticides
Department of Defense American Indian Cultural, Communication, and Consultation
Course MCB Camp Pendleton. Basketry Class 2014



No\$uun looviq (my heart is good)



Pollinator protection



References and Photos

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Muñoz, Loreto A., et al. "Chia Seed (*Salvia Hispanica*): An Ancient Grain And A New Functional Food." *Food Reviews International* 29.4 (2013): 394-408. *Academic Search Premier*. Web. 17 Mar. 2015.

Photos courtesy of : Deborah Small's Blog, Diania Caudell personal photos

Questions & Answers