July 3, 2010

Originally published in the *Contra Costa Times*

Weeds & Weed Seeds

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Conquer weeds by understanding their life cycles.

SUMMARY

Weeds are notoriously prolific and a gardener's best defense is understanding their life cycle. Only water planted areas, keep plantings mulched, avoid unnecessary soil disturbance and remove weeds or weed flowers before they can set seed.

As a gardener in Contra Costa County, you know from observation that weeds have an immense capacity to produce seeds. In fact, the high reproductive output of weeds is astounding. Per plant, pigweed produces 117,400 seeds, mullein 223,200, lambsquarters 72,450, shepherd's purse 38,500, johnsongrass 80,000, curlydock 29,500, and wild mustard a mere 16,000 seeds.

Weed flowers can be small and inconspicuous, but, after flowering profusely over a period of several months, they produce a tremendous quantity of seeds. Black medic, kikuyugrass, and spotted catsear flower 5 to 7 months. Dandelions bloom 9 months out of the year and each flower produces thousands of wind-borne minutely barbed pappus-bearing seeds which can germinate year round.

The sheer quantity of seeds ensures waves of seedlings. Yet, germination is discontinuous: it doesn't happen all at once. In gardens and in other disturbed areas, seeds are stored in the soil until shallow tillage brings them to the surface where conditions for germination are ideal.

Weed seeds persist in the soil below the germination zone and can be viable for a surprisingly long period of time. Mustard seeds thought to be 600 years old were excavated from a monastery garden in Denmark and 11 of them germinated. The longevity of field bindweed seeds is over 50 years. Lambsquarters seeds are viable for 20 to 50 years. Grass seeds tend to live an average of 3 to 10 years, whereas broadleaf weed seeds can be part of the soil seedbank for a much longer time

Life Cycle of Weeds:

Like other members of the plant kingdom, weeds are classified as annuals, biennials or perennials. The seeds of summer annuals germinate in the spring and mature plants generate seeds in summer and fall. Winter annuals sprout in the fall, live through the winter and produce seeds during the winter and spring. Biennial weeds spend their first year producing leaves before they flower and bear seed during

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their second and final year of life. Perennial weeds propagate by seeding but also vegetatively by means of creeping roots, rhizomes, taproots or bulbils. Weeds in their various stages of growth, flowering, seed production and dispersal are with us all year.

Weed Seed Dispersal:

Weed seed dispersal is varied and opportunistic. Though many mature weed seeds fall next to the parent plant, quantities of others are tumbled along or parachuted for miles by wind. Some burst out of capsules, landing 3 to 15 feet away. Others hitch a ride by attaching themselves to animal fur with burs or seed hooks. Many are digested by birds or livestock, transported by water or by the gardener's boots and tools. In their quest for territorial expansion, weeds use gardens as seed factory sites, as seed storage facilities and as launching pads for seed dispersal by gardeners.

Production of large quantities of seed, opportunistic seed dispersal, long-flowering periods, long seed viability, year-round seed production, and discontinuous germination are successful strategies that weeds use to ensure their survival and expansion.

Managing Weed Seeds:

Weed seed management works best if you combine methods of control. Choose an irrigation system such as drip irrigation or microsprinklers so that only your plantings are watered. Be aware that cultivation brings weed seeds to the surface where they can germinate. Do not let weeds go to seed and replenish their weed seed reservoir in the soil. Reduce weed seed germination by eliminating their light source through use of a thick layer of mulch.

For More Information:

If you would like more information about identification of and controls for specific weeds, consult these University of California web sites:

https://wric.ucdavis.edu/

http://ipm.ucanr.edu/PMG/menu.weeds.html

http://ipm.ucanr.edu/PMG/PESTNOTES/pn7441.html