

Living with Lawns

When making plans for your lawn, please consider the following steps:

Step 1: Forget the pesticides

- Pesticides include herbicides to control weeds, insecticides, and fungicides. Weed-and-feed products contain pesticides.
- The EPA reviewed the top 10 lawn and garden pesticides for their potential to cause cancer, and found:
 - 1 is a probable carcinogen (A carcinogen is a chemical that causes cancer)
 - 2 have suggestive evidence of carcinogenicity, but not sufficient to assess human carcinogenic potential
 - 3 are possible carcinogens (See the reverse side for the top 10 lawn and garden pesticides and their potential to cause cancer)



Step 2: Consider all the options for your yard

- How do you want to use your yard? For a place to play... relax... watch birds... have a picnic... plant flowers or tomatoes... or all of these?

Lawns

- Only mow where you go
- If recommended by a soil test report, apply fertilizer or lime at the appropriate times of year and at the correct rate
- Apply corn gluten meal in May to prevent weeds in established lawns. Corn gluten meal is also a fertilizer, so other fertilizer use can be reduced when it is applied
- Mow the lawn at a height of at least three inches with a sharp mower blade to maximize rooting and shade for potential weeds
- Never mow off more than one third of the grass tissue at a single time
- Consider planting a mix of fine fescue grasses (sometimes marketed as “no mow turf”) which is slow growing and requires less nutrients and water to grow
- Water seldom, if at all. During extended periods of drought the grass leaves will stop growing and turn brown, but dormant plants can remain alive for 2-3 months. If you water, do it in the early morning to reduce the amount of water lost to evaporation.
- Aerate if soil is compacted or if dead grass layer is more than one inch thick

Areas to explore

People choose to have more or less lawn in their yard depending on how they use it. To create areas to explore in your yard, consider:

- Trees and shrubs – think shade, birds, fruit or a place to hang a swing. Native trees and shrubs can create habitat for birds, a natural source of insect control.
- Shade gardens of attractive native ferns and spring flowers that also provide homes for frogs and toads – another natural source of insect control
- Patches of native prairie that provide long-lasting flowers: food for butterflies as well as food and nesting materials for birds
- Trails and paths around or through natural areas provide easy access
- Gardens for flowers, herbs, strawberries or veggies
- Boardwalks or bridges
- Rocks and logs

Top 10 home and garden pesticides			
Pesticide	Type	Pounds of active ingredient used in the U.S. in 2001 ¹	Potential to cause cancer ²
2,4-D	H	8-11 million	Not classifiable as to human carcinogenicity
Glyphosate (Roundup)	H	5-8 million	Evidence of non-carcinogenicity for humans
Pendimethalin	H	3-6 million	Possible human carcinogen
Diazinon	I	4-6 million	Not likely to be carcinogenic to humans. EPA eliminated all residential uses December 31, 2004
MCPP	H	4-6 million	Suggestive evidence of carcinogenicity, but not sufficient to assess human carcinogenic potential
Carbaryl	I	2-4 million	Probable human carcinogen
Dicamba	H	2-4 million	Not classifiable as to human carcinogenicity
Malathion	I	2-4 million	Possible human carcinogen
DCPA (Dacthal)	H	1-3 million	Possible human carcinogen
Benfluralin (Benefin)	H	1-3 million	Suggestive evidence of carcinogenicity, but not sufficient to assess human carcinogenic potential

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¹ USEPA, 2004. Pesticides Industry Sales and Usage: 2000 and 2001 Market Estimates, p. 15. http://www.epa.gov/oppbead1/pestsales/01pestsales/market_estimates2001.pdf

² Information in this table about whether lawn pesticides cause cancer comes from the following report by the U.S. EPA in 2007: Chemicals Evaluated for Carcinogenic Potential. Washington, DC: Health Effects Division, Office of Pesticide Programs, Office of Prevention, Pesticides, and Toxic Substances, U.S. Environmental Protection Agency. This EPA report includes decisions about whether some lawn pesticides in this table cause cancer is from the early 1990s. e.g. glyphosate report was published in 1991. In some cases there has been significant research published about the cancer causing potential of these chemicals since the EPA decision was made. For example the following three reports published after the EPA's glyphosate decision found exposure to glyphosate was associated with an increased incidence of non-Hodgkin's lymphoma: McDuffie, H.H. et al. 2001. Non-Hodgkin's lymphoma and specific pesticide exposures in men: Cross-Canada study of pesticides and health. *Cancer Epidemiology, Biomarkers & Prevention* 10:1155-1163; Hardell, L., M. Eriksson, and M. Nordström. 2002. Exposure to pesticides as risk factor for non-Hodgkin's lymphoma and hairy cell leukemia: Pooled analysis of two Swedish case-control studies. *Leukemia and Lymphoma* 43:1043-1049; De Roos, A.J. et al. 2003. Integrative assessment of multiple pesticides as risk factors for non-Hodgkin's lymphoma among men. *Occupational and Environmental Medicine* 60(9):E11.

³ Diazinon: Phase Out of all Residential Uses of the Insecticide, EPA <http://www.epa.gov/opp00001/factsheets/chemicals/diazinon-factsheet.htm>