Herbicides can persist in the soil, limiting your rotation or replant options, or even cause injury to a subsequent crop. Carryover potential depends on a number of factors including: amount of herbicide applied, timing of application, herbicide characteristics, soil pH and organic matter, location within the field and more. Carryover is commonly observed on headlands due to overlaps. The following information shows the relative sensitivity of major crops to certain herbicides. The laboratories listed can help in testing in herbicide residues. The analytical tests performed by these labs are generally very accurate; however, it can be difficult to get consistent, accurate soil samples. A bioassay can be more accurate and is recommended or required on many herbicide labels.

Also, see Herbicide Properties Affecting Performance earlier in the Technical Section.

Susceptibility of certain crops to:

Chlorimuron: canola > alfalfa > sunflower > sorghum > corn > oat > wheat > soybean.

Clomazone: oat = wheat = alfalfa > sunflower = sorghum = corn > soybean.

Dinitroaniline: annual rye > oat > sorghum > corn > wheat > alfalfa > soybean.

Imazaquin: canola > alfalfa = corn = sunflower > sorghum > oat > wheat > soybean.

Imazethapyr: canola > sorghum > sunflower > oat > wheat > corn > alfalfa > soybean.

Triazine: ryegrass > alfalfa > oat > wheat > soybean > sorghum > corn.

General guidelines for laboratory analysis: Safe level*

Herbicide	Parts per billion	Parts per million	Crop
Chlorimuron	1-2	0.001-0.002	Corn
	2-5	0.002-0.005	Wheat
Clomazone	50-200	0.050-0.200	Corn
	15-100	0.015-0.100	Wheat, Alfalfa
Dinitroaniline	50-100	0.050-0.100	Sugar beet
	100-200	0.100-0.200	Corn
	200-300	0.200-0.300	Wheat
Imazaquin	2-10	0.002-0.010	Corn
	10-30	0.010-0.030	Wheat
Imazethapyr	10-30	0.010-0.030	Corn
	4-15	0.004-0.015	Sorghum
Triazine **	150-250	0.150-0.250	Soybean
	40-100	0.04-0.100	Alfalfa
	60-150	0.06-0.150	Oat
	75-180	0.075-0.180	Wheat
	25-50	0.025-0.050	Sugar beet

*Due to differences in herbicide availability from the soil, "safe" values for herbicide residues differ according to soil type. Low-range values are for coarsely textured soils with low levels of organic matter; higher-range values are for finely textured soils with higher levels of organic matter. 1 ppm = 1,000 ppb.

** Also, see guidelines on the upper right for triazines.

Source: Univ. Illinois and NDSU.

Sampling depth has a big effect on the lab results. If the herbicide is relatively immobile, sample 0-3" or to the depth of incorporation. For mobile herbicides, it may be advisable to include a deeper sample.

Triazine Residue Level*		"Safe" to plant
3-inch sample (no-till)	6 inch sample (moldboard plow)	
< 0.17 ppm	< 0.08 ppm	oat, alfalfa
0.17 to 0.35 ppm	0.08 to 0.17 ppm	soybean
> 0.35 ppm	> 0.17	corn

* - Triazine residues are more active if soil pH >7.

Laboratories that test for herbicide residues

The following list has just a few of the labs that can analyze for pesticide residues.

A & L Great Lakes Laboratories, Inc.
3505 Conestoga Drive, Fort Wayne, IN 46808
www.algreatlakes.com
(260) 483-4759

AgSource Harris Laboratories
300 Speedway Circle, Lincoln, NE 68502
http://agsource.crinet.com/page2286/HarrisLaboratories
(402) 476-0300

Agvise Laboratories
PO Box 510, 604 Highway 15,
Northwood, ND 58267
www.agviselabs.com
(701) 587-6010
902 13th St N
Benson, MN 56215
(320) 843-4109

APT Labs, Inc.
1050 Spring St., Reading, PA 19610
www.aptlabsinc.com
(610) 375-3888

Centralia Animal Disease Laboratory
9732 Shattuc Road, Centralia, IL 62801-5858
www.agr.state.il.us/AnimalHW/labs/index.html
(618) 532-6701

Environmental Micro Analysis, Inc.
460 N. East Street
Woodland, CA 95776
www.emalab.com
(530) 666-6890

Hazelton Environmental Services
525 Science Drive, Madison, WI 53711
(608) 232-3300

Midwest Laboratories
13611 B Street, Omaha, NE 68144
www.midwestlabs.com
(402) 334-7770

Minnesota Valley Testing Laboratories, Inc.
Iowa, Minnesota, North Dakota
www.mvtl.com
(800) 782-3557

Montana State Analytical Laboratory
McCall Hall, Montana State University,
Bozeman, MT 59717
www.agr.mt.gov/agr/programs/commodities/analyticallaboratory/pesticide/
(406) 994-3383

Pacific Agricultural Laboratory
12505 N.W. Cornell Rd.
Portland, OR 97229
www.pacaglab.com
(503) 626-7943

Sherry Laboratories
2121 East Washington Blvd.
Fort Wayne, IN 46803
www.sherrylabs.com
(800) 891-8442

Soil - Plant Analysis Lab
University of Louisiana at Monroe
Chemistry and Natural Sciences Building
Room 117
Monroe, LA 71209
www.ulm.edu/spal
(318) 342-1948

South Dakota Ag Labs
1006 32nd Ave #103
Brookings, SD 57006
www.sdaglabs.com
(605) 692-7325

Ward Laboratories
4007 Cherry Ave
PO Box 783
Kearney, NE 68847
www.wardlab.com
(308)- 234-2418