WRITTEN FINDINGS OF THE WASHINGTON STATE NOXIOUS WEED CONTROL BOARD (May 1995)

Scientific Name: A	Acroptilon repens (L.) DC.	
Common Name: Russian knapweed		
<u>Family</u> :	Comp	ositae
Legal Status: Class B:	(a) (b) (c) (d) (e)	regions 1, 2, 5, 7, 8 Region 4 except that area lying within the boundaries of the Colville Indian Reservation within Ferry County Adams County of region 6 except for the area west of HWY 17 and north of HWY 26 Intercounty Weed District No. 52 Region 10 except Franklin County

<u>Description and Variation</u>: A bushy, branched perennial, Russian knapweed grows 1 to 3 feet tall and forms clones or colonies from its vigorous, spreading root system. The erect, hairy stems branch from above the middle or not at all. While young plants may have whitish and woolly stems, older plants will turn dark brown to black. The basal leaves are deeply notched and gray-green in color, while the upper leaves are smaller and linear with broken edges. The stem leaves are intermediate in size with toothed edges. The pink to purple flowers grow in solitary heads at the tips of leafy branches. The bracts under the flower heads are greenish to straw colored, with a broad, papery tip. Russian knapweed flowers from June to September, producing ivory-white seeds with a feather-like plume.

<u>Economic Importance</u>: Russian knapweed is an aggressive and invasive noxious weed of pastures, non-crop areas, grainfields and other cultivated fields. Livestock may avoid this species; in addition, the plant is poisonous to horses, causing chewing disease (nigropallidal encephalomalacia).

<u>Geographical Distribution</u>: Herbarium records show Russian knapweed in several Washington counties: Benton, Chelan, Grant, Kittitas, Klickitat, Okanogan, Spokane, Stevens, Walla Walla, Whitman, and Yakima counties

<u>Habitat</u>: Russian knapweed is common on the heavier, often saline soils of bottomlands, as well as subirrigated slopes and flats. The species is also competitive in hayfields, pastures, grainfields, and along roads or irrigation ditches. In eastern Washington, Russian knapweed is commonly found on sites occupied by basin wildrye (*Elymus cinereus*).

<u>History</u>: Russian knapweed was originally introduced to the U.S. through alfalfa seed brought in from Turkestan near the turn of the century. Once imported, it was spread via domestically produced alfalfa containing Russian knapweed. In 1920, it appeared in Washington (Okanogan County), and, by the end of the 1920's, it had been found in Yakima, Chelan, Whitman, Walla Walla, Benton, Klickitat, Spokane, and Stevens counties, as well.

Growth and Development: The species is a long-lived, persistent, perennial weed.

<u>Reproduction</u>: The plant reproduces by seed, although the seeds are too heavy to be wind-borne; long-distance transport is typically as a contaminant in hay or seed lots. Plants can spread locally via laterally extension of roots.

<u>Hybrids</u>: No information available at this time.

Population Dynamics: See Knapweed Newsletter.

<u>Response to Herbicides</u>: Russian knapweed is difficult to control with herbicides. Depending on the season and the developmental stage of the plant, chlorsulfuron, sodium chlorate, 2,4-D, and picloram are adequate. Read and follow current herbicide labels and recommendations for control.

<u>Response to Cultural Methods</u>: Productivity is likely to be maximized in a minimum amount of time if Russian knapweed populations can be treated with a suitable herbicide, farmed, and seeded to a competitive forage. Depending on the moisture regime, nitrogen fertilizer applied in conjunction with an herbicide significantly improves the competitiveness of residual grasses. In addition, improved grazing management will significantly influence the life span of Russian knapweed control efforts.

<u>Biocontrol Potential</u>: The nematode *Subanguina picridis* forms galls on Russian knapweed that reduce plant vigor. However, its effectiveness in Washington is not yet known.

References:

Delorit, R.J. 1970. An Illustrated Taxonomy Manual of Weed Seeds. Agronomy Publications. River

Falls, WI.

*Dennis, L.J. 1980. Gilkey's Weeds of the Pacific Northwest. Oregon State University Press, Corvallis.

*Gaines, X. M. and D.G. Swan. 1972. Weeds of Eastern Washington and Adjacent Areas. Camp Na-Bor-Lee Association, Davenport, WA.

*Hawkes, R.B., T.D. Whitson, and L.J. Dennis. 1985. A Guide to Selected Weeds of Oregon. Oregon Department of Agriculture, Salem.

*Hitchcock, C.L. and A. Cronquist. 1973. Flora of the Pacific Northwest. University of Washington

Press, Seattle.

*Nelson, E.W. and O. Burnside, eds. 1979. Nebraska Weeds. Nebraska Department of Agriculture, Lincoln.

Roche', B. 1983. Range plants: Their identification, usefulness, and management. SBC, Washington

State University, Pullman.

- *Roche', B.F. Jr., G.L. Piper, and C.J. Talbott. 1986. Knapweeds of Washington. Cooperative Extension Bulletin EB1393. Washington State University, Pullman.
- *Roche', B.F. Jr. and C.J. Talbott. 1986. The collection history of *Centaureas* found in Washington State. Research Bulletin EB 0978. Agricultural Research Center, Washington State University, Pullman.
- *Roche', B.F. Jr. and C.T. Roche'. 1991. Identification, introduction, distribution, ecology, and economics of *Centaurea* species. *In* James, L.F., J.O. Evans, M.H. Ralphs, and R.D. Child, eds. Noxious Range Weeds, pp. 369-388. Westview Press, Boulder, CO.

Wilkinson, R.E. and H.E. Jaques. 1959. How to Know the Weeds. Wm. C. Brown Co. Publishers, Dubuque, IA.

*References held in WA NWCB offices