

The Contribution of Elias Emanuel Nelson to Range Management¹

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ELIAS EMANUEL NELSON was a native of Sweden, born on September 7, 1876. His American education included two degrees in botany at the University of Wyoming, the A.B. in 1898 and the M.A. in 1899. He was then Assistant in Horticulture and Agrostology at the Wyoming Agricultural Experiment Station, resigning in 1905 to go to the Washington Experiment Station. It was during this six-year period that he made his main contributions to the science of range management.

Although not a relative, he studied under and made collections with Aven Nelson, long-time member of the University faculty and who passed away in 1952. E. E. Nelson married Emma Nelson (also no relation) who was graduated from the University of Wyoming about 1907. His first scientific contribution was a "Revision of the Western North American Phloxes" which was his Master's degree thesis published as part of the ninth report of the Wyoming Agricultural College in 1899 (1). This added a number of new names to the plants of the West, including *Phlox glabrata* (then described as *P. hoodii glabrata* n. var.) the common increaser on shortgrass ranges.

At about the same time Nelson was interested in the genus *Antennaria* and published four short papers on that genus, two in 1899 and one each in the two following years, again including a

number of new species (3, 4, 5, 6). During this period he found time to work for the United States Department of Agriculture, Division of Agrostology, during the summer of 1900, as Scientific Aid, doing field work (descriptive range survey and plant collection) in southern Wyoming (17).

Nelson's "Shrubs of Wyoming" contains a list of those shrubs he knew to be present in the state, a brief description of them, their habitat, and their uses and grazing value (8). His part of the bulletin "Wheatgrasses of Wyoming" (the other part was written by Aven Nelson) gives



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recommendations for the culture of 11 species which he says "are the most nutritious hay and pasture grasses that we have. Only the seed of slender wheat-grass can be obtained from seedmen" (9). His *Agropyron bakeri*, Baker wheat-grass, is still accepted as a valid species (10).

Nelson's "Native and introduced salt-bushes, Three season's trials" includes a list and description of both native and introduced saltbushes present in Wyoming describing their natural habitat, forage value, use for cultivation and reseeding range land, and methods of seeding (11). He states "Nuttall and Nelson saltbush may be grown for pasturage. They make good stands under favorable conditions, but grow slowly and require several seasons to attain full size."

In the Wyoming Station Report for 1902 on pages 34 and 37 Nelson has an article on "The management and improvement of the range." Methods of range management and improvement are briefly discussed. Among the means described are resting, rotative pasturing, reseeding, harrowing, and disking.

Nelson was later with the U.S.D.A. Experiment Farm at Bent, Oregon, devoting his chief attention to forbs; with the Idaho Experiment Station working primarily with farming problems, both dryland and irrigated; and with the U. S. Irrigation Department at Twin Falls, Idaho. After his retirement from active status at the Washington Experiment Station he lived in Yakima, Washington, where he carried on his research. He wrote regularly for a horticultural column in the *Yakima Morning Herald*, a daily newspaper. He was working on hybrid iris (16) at the time of death on August 9, 1949.

LITERATURE CITED

- (1) NELSON, ELIAS E. 1899. Revision of the Western American Phloxes. Wyo. Agr. College Report 9. 36 pp.
- (2) ———. 1899. Some new western species. *Erythraea* 7: 166-170.
- (3) ———. 1899. The Wyoming species of *Antennaria*. Bot. Gaz. 27: 208-212 (in reprints, pp. 209-213).
- (4) ———. 1899. A new Colorado *Antennaria*. Bot. Gaz. 27: 212 (in reprints, p. 213).
- (5) ———. 1900. Some new species of Wyoming plants. Bot. Gaz. 30: 117-122.
- (6) ———. 1901. A revision of certain species of plants of the genus *Antennaria*. U. S. National Museum Proc. 23: 697-713.
- (7) ———. 1902. Notes on certain species of *Antennaria*. Bot. Gaz. 34: 114-124.
- (8) ———. 1902. The shrubs of Wyoming. Wyo. Agr. Expt. Sta. Bul. 54. 47 pp.
- (9) ———. 1903. The wheat-grasses of Wyoming. Part II. Wheat-grasses at the Laramie Experiment Farm. Wyo. Agr. Expt. Sta. Bul. 59, pp. 19-34.
- (10) ———. 1904. Some western species of *Agropyron*. Bot. Gaz. 38: 378.
- (11) ———. 1904. Native and introduced salt-bushes: Three seasons' trials. Wyo. Agr. Expt. Sta. Bul. 63. 19 pp.
- (12) ———. 1902. Forage plants for arid and semi-arid regions. Twentieth Century Farmer. April issue.
- (13) ———. 1902. Native hay grasses in arid regions. Twentieth Century Farmer. April issue.
- (14) ———. 1902. Cultivated hay grasses and forage plants. Twentieth Century Farmer. May issue. Reprinted in part as Wyoming Range Management No. 22, 2 pp., April 1950. (mimeographed)
- (15) ———. 1902. Forage plants for alkali lands. Twentieth Century Farmer. May issue.
- (16) ———. 1948. Varietal notes on red Irises. American Iris Soc. Bul. 110: 91-94. July.
- (17) ———. SHEAR, C. L. 1902. Field work of the Division of Agrostology. U. S. Dept. Agr. Division of Agrostology Bul. 25: cf. map 1, and pages 12 and 38.