

Source	Fixed Oil, %	Mois- ture, %	Total Alkaloid, % (as Ergo- toxine)
5. Spanish rye ergot			Av. ^b 0.116
			0.245
			0.223
			0.235
			0.223
Total average			0.208
6. Russian rye ergot			Av. ^b 0.060
			0.063
	Total average		0.0615

^a An average for not less than three different samples.
^b An average for not less than two different samples as reported by Hampshire and Page (9).

SUMMARY

A pharmacognostic examination has been made of four ergots from grasses of north-western United States. Cell size determinations have been recorded and cell characteristics described. A form of "striated" wheat ergot has been described and a means for determining its identity in commerce suggested. The following salient facts have been observed:

1. The variations that occur in structural characteristics between foreign rye ergot and domestic rye ergot are mainly in size of cell forms. They are practically negligible.

2. Sclerotia of domestic and foreign rye ergots were generally larger in size than those of wheat ergot. The pseudoparenchyma cells of domestic wheat ergots, how-

ever, are more compactly arranged than are those of rye ergots.

3. There were no appreciable differences in the results of microchemical coloration tests, fixed oil determinations and moisture content for ergots of domestic rye and wheat.

4. A chemical assay indicated that total alkaloid content (as ergotoxine) of domestic rye ergot was greater than of foreign rye ergot. On the other hand, ergot from domestic wheat was in most cases found to be lower in total alkaloid (as ergotoxine) than ergot of rye.

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Nomenclature Confusion of *Populus candicans* Aiton*†

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The genus *Populus* has long been known to show variation in the shape of the leaves, not only in those from different trees of the same recognized species, but also in the various leaves from the same tree.

The leaf variation, especially, has led to a difference of opinion among taxonomists

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as to whether certain plants in the genus *Populus* should be given specific or merely varietal ranking. This is particularly true in the case of the plant now commonly called "Balm-of-Gilead Poplar." This was first given a specific rank, *Populus candicans* by Aiton (1) in 1789, commonly called the "Heart-leav'd Tacamahac Poplar Tree" which had previously been listed by Hope (2) as *Populus tacamahaca* Miller in 1778.

Aiton did not have long to wait to have his specific ranking challenged, however, for Brisseau-Mirbel (3) in 1800-1806 stated that "*Populus balsamifera* Linné or *Populus tacamahaca* Miller, and *Populus candicans*

Aiton or *Populus viminalis* Hort. Paris, are considered by some authors as distinct species, by others as varieties or as males and females of the same species."

Populus candicans Aiton was included by Willdenow in the fourth edition of Linné's "Species Plantarum," 1805, and apparently was generally accepted until Gray (4) classed it as a variety of *Populus balsamifera* Linné in 1868, or earlier.

Judging from the University of Wisconsin Herbarium specimens, Gray's name was commonly accepted until about 1898, since specimens collected after that date are again given the name *Populus candicans* Aiton. Elsewhere this name was not generally accepted, as the "Index Kewensis" (5) lists *Populus candicans* Aiton as a synonym for *Populus balsamifera* Linné."

In 1914 Nieuland (6) gave the name *Aigeiros candicans* (Ait.) to the plant.

Bailey (7), in 1916, seemed quite confused regarding the taxonomy of *Populus candicans* Aiton, when he stated, "apparently a hybrid, the origin of which is in doubt . . . said to be sometimes grown under the names of *Populus suaveolens* (Fischer) and *Populus balsamifera* (Linné)."

Farwell (8), in 1919, gave it the name *Populus tacamahaca* Miller which was accepted by Sargent (9).

The latest conception of the botanical status of the Balm-of-Gilead Poplar found in the literature is that of Stout (10) who considers it to be a clone,¹ giving what he

¹ Stout's conception of a clone is in part as follows: "The clon(e) is an important unit among horticultural plants and it may also exist in nature among wild plants which naturally reproduce by asexual methods. In considering the status of a clon(e) it should be constantly held in mind that an entire clon(e), even though it comprise thousands of plants, is merely one seedling plant that has been multiplied by vegetative propagation."

considers evidence to support his contention. Bonisteel (11) in accepting Stout's view, calls attention to the fact that since Stout's article was published in 1929, the Committee on Nomenclature of the current National Formulary should have been aware of this investigation and made the necessary changes in the specific rank for *Populus candicans* Aiton in the monograph under Poplar Bud. No reference has been found in the literature that takes exception to Stout's article.

In a private communication, dated January 2, 1941, regarding the progeny obtained in hybridizing the Balm-of-Gilead clone with other poplars, Stout says, "It seems, however, more and more obvious as we continue our studies that the Balm-of-Gilead is merely a clone of the heart-leaf type of the variable species called *Populus tacamahaca* (Miller)."

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