

Uses. Fabrication of drinks and fibers. *Previous work.* One unidentified saponine isolated.¹

Present work. The fresh plants were cut and the expressed juice (15 l.) boiled with HCl (3 N) for 4 hr and then allowed to stand at room temp. overnight. A powdery precipitate formed which was filtered off, dried and continuously extracted with benzene. Evaporation of the solvent afforded a brown mass which was chromatographed on a column of silica gel. Elution with benzene yielded intractable resins while subsequent elution with benzene-EtOAc (98:2) gave a white solid (1.5 g yielded 0.075%). Recrystallization several times from EtOH (95%) gave fine needles which were shown (IR, NMR) to be identical with tigogenin m.p. 207–208°, $[\alpha]_D^{20} - 48^\circ$ (C = 1.53%, CHCl₃), acetate m.p. 203–204°, $[\alpha]_D^{20} - 80^\circ$ (C = 1.72%, CHCl₃).

Further elution with benzene-EtOAc (95:5) afforded a second white solid (0.6 g yielded 0.03%) m.p. 265–267°, $[\alpha]_D^{20} + 7^\circ$ (C = 1.64%, CHCl₃), acetate m.p. 203–204°, $[\alpha]_D^{20} - 3.2^\circ$ (C = 1.5%, CHCl₃), 2,4-dinitrophenylhydrazone m.p. 247–248°. Comparison of these properties with those reported for hecogenin² suggested identity which was confirmed by comparison (m. m.p., IR, NMR) with an authentic sample.

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¹ F. PÉREZ BARRÉ, *Rev. Fac. Farm. Universidad de Los Andes* 7, 68 (1964).

² R. FERNÁNDEZ DÍAZ, R. FREIRE BARRERA and A. GONZÁLEZ GONZÁLEZ. *An. R. Soc. Españ. Fis. y Quím.* 53B, 927 (1967).

Key Word Index—*Agave cacui*; Amaryllidaceae; sapogenins; tigogenin; hecogenin.

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GRAMINEAE

FATTY ACIDS FROM CERTAIN ANDROPOGONEAE

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Caryopsis from the taxa described in Table 1 were found to contain varying amounts of palmitic, stearic, oleic, linoleic and linolenic acids. Separation of methyl esters of these acids was achieved by GLC. Identifications were based upon comparisons to known samples. All percentages were based on data from a Varian Aerograph electronic integrator.

Hilditch and Williams¹ list other grass taxa that have been investigated for fatty acids. The data presented here contrasts wild, weed, and crop forms of *Coix*, *Sorghum*, *Tripsacum* and *Zea*.

¹ T. P. HILDITCH and P. N. WILLIAMS, *The Chemical Constitution of Natural Fats*, Wiley, New York (1964).

TABLE 1. PERCENTAGE COMPONENT ACIDS OF SEED FATS OF THE GRAMINEAE

Taxon	Source	U.I.*	Habit	Palmitic	Stearic	Oleic	Linoleic	Linolen
<i>Coix lacryma-jobi</i> L.	Philippines	1008	Cultivated	15.8	1.1	49.3	33.7	Trace
	Philippines	1060	Cultivated	14.6	1.3	50.6	33.4	Trace
	Philippines	1011	Cultivated	16.1	1.7	59.0	22.7	0.5
	Nigeria	1061	Weed	15.7	1.5	51.6	31.1	Trace
<i>Sorghum bicolor</i> (L.) Moench.	Botswana	2179	Cultivated	15.8	0.1	29.3	54.8	—
		2022	Cultivated	35.3	Trace	39.0	39.2	—
	Nigeria	1619	Weed	16.9	1.5	34.3	44.8	2.2
		1935	Weed	22.0	0.2	36.0	41.8	Trace
<i>Sorghum versicolor</i> J. N. Anress.	Nigeria	1940	Wild	21.7	0.1	39.0	39.2	—
<i>Tripsacum lanceolatum</i> Rupr. ex Fourn	Mexico	1396	Wild	7.8	0.6	22.3	33.7	0.1
<i>Tripsacum pilosum</i> Scrib. & Merr.	Mexico	1370	Wild	8.0	1.2	40.1	50.5	Trace
<i>Tripsacum maizar</i> Hernandez-X and Randolph	Mexico	2323	Wild	14.1	1.8	41.1	42.9	Trace
<i>Zea mexicana</i> Reeves & Mangelsdorf	Mexico	1027	Weed	14.2	Trace	22.3	63.2	Trace
<i>Zea perennis</i> Reeves & Mangelsdorf	Mexico	1071	Wild	13.1	1.5	34.3	51.0	Trace

* Voucher seed number at the Crop Evolution Laboratory Herbarium.

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Key Word Index—Gramineae; Andropogoneae; fatty acids; chemotaxonomy.

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LILIACEAE

NEW SOURCES OF COLCHICINE IN *IPHIGENIA*

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COLCHICINE is widely used for treatment of gout and in plant breeding (for producing