the oven. After drying, the sample should be cooled in a desiccator. After cooling, weigh and calculate the loss in weight as per cent moisture. Moistures should be run in duplicate unless the analyst is able to get identical checks on the composite sample.

Mixing Lint and Caustic Solution

Exactly thirty-five grams of the final sample are weighed on a balance that is accurate to the second decimal. It is transferred to the pot and 525 cc of the one per cent caustic solution is added, pressing the lint down as the addition of caustic is made, with a strong glass flask, bottle, or kitchen potato masher, to insure a good wetting-out. The mixture is then stirred with a glass rod to complete the mix, as a good mix is essential to this test. The lids are fastened on securely and the pots are put in the digester.

Digesting

Fasten the lid securely on the digester and bring the steam pressure up to 105 pounds pressure (341°F). The temperature should be watched closely. It is held at this temperature for three hours after the pressure is up and then the steam is blown off. Any lowering of the pressure during cooking will blow out some liquor thus giving worthless results.

Washing

A small amount of water is added to the cooked lint or fibre after it is removed from the autoclave in order to facilitate removal from the cooking pot. This mix is poured directly into the lower half of the washing cylinder. The cooking pot is given one rinse in order to assure complete transference of all fibres to the washer. The upper half of the washing cylinder is clamped on and the washer is started. The water is turned on when the screened end reaches the bottom of its rotation. This eliminates plugging of the screen. The washing time begins when the water is turned on. The water is held constant at 22 pounds per square inch with a reducing valve. During the 5 minute washing period 3.9 to 4.0 gallons of water per minute should pass through the washing cylinder, which should be checked occasionaly to see that the machine is working properly.

At the end of five minutes the water is cut off and the revolving motion stopped when the washing screen is near the bottom of its rotation. The cylinder should be slightly off vertical to assure rapid drainage. After the flow of drainage water has almost stopped, the water valve is again turned on for an instant to wash any adhering fibres from the walls of the cylinder. The lower half of the washer with its accompanying lint or fibre is taken off and the stock on the screen carefully removed and squeezed hard by hand. The screens in the end of the washers should be inspected at least once a month to insure that no plugging or sagging has taken place.

Drying

The wet sample is dried in the ovens mentioned above at 105 to 110 degrees Centigrade over night (14 hours). The weighing can used in lint moisture determination may be used, but good results are obtained by putting the squeezed samples alone in the oven in a screened partitioned tray and weighing these samples hot immediately on taking out. The same balance as used for lint moisture is used. From the dry weight the unit yield is calculated, as bone dry yield from the lint or fibre as received. In other words, the bone dry cooked sample weight is divided by the lint weight used (no correction being made for lint moisture) times 100.

A Note on Muscadine Grape Seed Oil*

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ALTHOUGH grape seed has a very limited use in this country, it is used extensively elsewhere in the paint and soap industries, as well as for edible purposes. Oils from the Vinifera and Labrusca groups have been studied; however, a review of the literature did not reveal any reference to muscadine grape seed oil. The Georgia Experiment Station has done considerable horticultural and chemical investigations of the muscadine (*Muscadinia rotundifolia* (Michx.) Small) grape which is native to the southern part of the United States. Along with these studies a few oils from grape seeds of the leading muscadine varieties have been examined.

The muscadine seeds (2 to 6 per cent of the whole fruit) were by-products from fermentation. After they were thoroughly cleaned, the seeds were air-dried, ground, and extracted with Skellysolve F.

The data on the oils from six muscadine varieties are given in Table 1. It may be noted that the glycerides, calculated from the iodine numbers and thiocyanogen values, are only approximations as other unsaturated fatty acids, possibly a small amount of erucic acid, might be present.

Upon comparing with the properties of the Vinifera and Labrusca oils, data obtained by Jamieson (1), Rabak (2), and many other workers, muscadine grape seed oils have many similar properties and can probably be used interchangeably for many commercial uses.

Literature Cited

(1) Jamieson, G. S., and McKinney, R. S., Oil and Soap, *12*, 241 (1935).
(2) Rabak, F., Ind. Eng. Chem., *13*, 919 (1921).

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TABLE 1.—MUSCADINE GRAPE SEED OILS

	Varieties					
	Hunt	Scuppernong	Brownie	Creek	Stuckey	Yuga
Oil in seed, air-dry, per cent	13.9	12.9	12.5	12.4	13.6	12.4
Iodine no. (Wijs)	132.0	129.0				
Thiocyanogen value	77.8	76.2				
Calculated glycerides—						
Linoleic, per cent	62.5	60.9				
Oleic, per cent	27.4	27.2				
Saturated, per cent	9.1	11.0				
Unsaponifiable material, per cent	1.04	0.87				
$N^{25°}_{D}$	1.47060	1.47130				
Acid Value (mgs KOH/gm.)	12.9	8.2				