It is extremely important to realize that vegetable oils are mixtures of tryglycerides from various fatty acids. The composition of vegetable oils varies with the plant source. The table below indicates the percentages of each type of fatty acid that is in common vegetable oils or animal fats. The two numbers at the top of each column represents the number of carbon atoms and double bonds (e.g. 16:0 refers to the 16 carbon atoms and 0 double bonds found in the long chain of Palmitic acid). See text on Typical Proportions of Chemicals Used to Make Biodiesel (Commercial Biodiesel Production Methods) for a description of several types of tryglycerides that are found in vegetable oils.

Section: BIOFUELS

Composition of Various Oils and Fats Used for Biodiesel

(percentage of each type of fatty acid common to each type of feedstock)

Oil or fat	14:0	16:0	18:0	18:1	18:2	18:3	20:0	22:1
Soybean		6-10	2-5	20-30	50-60	5-11		
Corn	1-2	8-12	2-5	19-49	34-52	trace		
Peanut		8-9	2-3	50-60	20-30			
Olive		9-10	2-3	73-84	10-12	trace		
Cottonseed	0-2	20-25	1-2	23-35	40-50	trace		
Hi Linoleic Safflower		5.9	1.5	8.8	83.8			
Hi Oleic Safflower		4.8	1.4	74.1	19.7			
Hi Oleic Rapeseed		4.3	1.3	59.9	21.1	13.2		
Hi Erucic Rapeseed		3.0	0.8	13.1	14.1	9.7	7.4	50.7
Butter	7-10	24-26	10-13	28-31	1-2.5	.2-.5		
Lard	1-2	28-30	12-18	40-50	7-13	0-1		
Tallow	3-6	24-32	20-25	37-43	2-3			
Linseed Oil		4-7	2-4	25-40	35-40	25-60		
Yellow grease (typical)	2.43	23.24	12.96	44.32	6.97	0.67		
		16:1=3.97						

Source:

J. Van Gerpen, B. Shanks, R. Pruszko, D. Clements, and G. Knothe, 2004, *Biodiesel Production Technology,* National Renewable Energy Laboratory subcontractor report NREL/SR-510-36244, chapter 1, page 1. Please see this document for a full discussion.

Available on-line at:
www.nrel.gov/docs/fy04osti/36244.pdf