Lipids are compounds of organic molecules, constituted mainly by carbon ad hydrogen and, to a lesser degree, by oxygen (simple lipids), although they may also contain phosphorus (P), sulphur (S) and nitrogen (N) (complex lipids). These are not soluble in water. The fats are one sort of lipids in animals (the main sort), but “fat” is not a synonym of “lipid”. Lipids play different roles in organisms such as energy reserves, in structural formation (of cell membranes) or regulating hormones, for example. Vitamins A, D, E and K are fat-soluble, in other words they can be digested, absorbed and transported with fats. Lipids are divided into two groups: (a) saponifiable lipids, which contain fatty acids and (b) non-saponifiable lipids which do not. Fatty acids are the basic component of saponifiable lipids and there are also two sorts: saturated fatty acids and unsaturated fatty acids. The latter are also known as “essential fatty acids” and are important for optimum animal health. They are only found in small quantities in forage, higher quantities being found in oil-seed plants. However, a second group of lipids, the glycolipids, are mainly found in the forage provided by grasses (Gramineae) and the pea family (Leguminosae). Milk production rises when lipids constitute 5% of dry matter, but if a higher concentration of lipids is consumed, the level of protein in milk falls and cows actually eat less.

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