

into a hard; transparent varnish—a peculiarity which is increased by boiling the oil, either alone, or with some of the preparations of lead.

The yield of oil from a bushel of East Indian seeds is $14\frac{1}{2}$ lb. to 16 lb.; of Egyptian, 15 lb.; of Sicilian, $14\frac{1}{2}$ lb. to 15½ lbs.; of Russian, 11 lb. to 13 lb.; of English or Irish, $10\frac{1}{2}$ to 12 lb.

Linseed oil, according to Saxe, is composed of Margarine and Oleine in nearly equal proportions. But the oleic acid of linseed differs from that of other fatty bodies. The anhydrous acid is composed of carbon 46, hydrogen 38, oxygen 5. The margaric acid is as usual composed of carbon 34, hydrogen 33, oxygen 3. The glycerine obtainable from linseed oil in large quantities, is also similar to that procured from other fats.

Linseed, after having had the oil expressed from them, are in the form of a flat mass, commonly called *oil-cake*. This being reduced to coarse powder, forms the linseed meal which is so commonly employed for making poultices, though these are also formed of the simply powdered seeds. From the chemical composition, it is also evident how nourishing the linseed is likely to be, and, indeed, from experience is well known to be, for fattening cattle.

In the imports of flax, the terms *codilla* and *tow* are very often used as synonymous, but *codilla* forms the first workings in the dressing of flax, and is longer than *tow*; it is more or less dirty, and in consequence sometimes cheaper than *tow*.

CHEMICAL CONSTITUENTS OF THE FLAX PLANT.

In addition to the composition of the seed, it is interesting to know that of the plant in general. This we are able to do in a very satisfactory manner, from Dr. Hodge's "Lecture on the Composition of the Flax Plant," and his paper read before the British Association, at Belfast, 3rd September, 1852. In this he communicated the history of a crop grown by himself for experimental purposes, and the progress of which he was able carefully to watch, from the sowing of the seed to its conversion into dressed flax for the market. From this we obtain the following information:—

"July 28th.—One plant of flax, in seed, was taken—height above ground, 31 inches, root, $5\frac{1}{2}$ inches long; length from surface of field to first branch, 24 inches. About five inches of the lower end of stem had become yellow. The weight of entire plant was 71.1 grains. It was cut into three portions, which were separately incinerated, with the following results:—

1. Root and lower part of stem weighed, dried, 6.60 grains, gave 0.094 ash=1.424 per cent.
2. Capsules and branches, dry, weighed 9.47, gave .293 ash=3.094 per cent.
3. Middle portion, dry, weighed 5.55, gave .143 ash. Ash in dry stem 2.622 per cent.

August 10th.—One plant taken—entire length with root, 37 inches; length from surface of soil to branches, 29 inches; stem of a light straw color leaves withered on ten inches of stem; capsules ten in number—seeds green; weight of entire plant 71 grains; branches and capsules, 31.8 grains; water in plant 45.335 grains; solid matter in do., 25.665; inorganic matter in do., 1.006 grains.