

leaves of the cabbage was proved to be as follows:—

Water	89.42
Oil	.08
*Soluble protein compounds.....	1.19
Sugar, digestible fibre, &c.....	7.01
Soluble mineral matter	.73
†Insoluble protein compounds. ...	.31
Woody fibre	1.14
Insoluble mineral matter.....	.12
	100.00
*Containing nitrogen.....	.19
†Containing nitrogen.....	.05

Cabbages contain about the same proportions of water, sugar, and protein compound as are found in good swedes. It appears that cabbages and swedes, weight for weight, possess nearly the same nutritive value.

There is nearly $3\frac{1}{2}$ per cent. more water in the pulp than in the mangel. The decomposition of one specimen of each dried at 212° was found by Dr. Voelcker to be as follows:—

	Mangels.	Pulp.
Sugar, gum, and soluble protein compounds.....	58.98	23.22
Soluble mineral matter.....	10.79	6.17
*Soluble albuminous compounds.....	7.62	6.67
†Insoluble albuminous compounds.....	1.14	8.25
Cellular fibre and insoluble pectinous compounds (crude fibre).....	20.57	49.22
Insoluble mineral matters.....	.90	5.71
	100.00	100.00
*Containing nitrogen.....	1.22	1.07
†Containing nitrogen.....	.18	1.32

	1.40	2.39
Equal to protein compounds...	8.76	14.92

The Professor adds:—"A careful consideration of the differences just pointed out in the composition of pulp and roots will enable us to decide with no great difficulty—1st. That weight for weight, pulp similar to that analyzed by me cannot possibly have the same feeding value as good mangel-wurzels. 2nd. That such pulp, however, is a refuse material which possesses high-feeding properties."

Adulteration of Seeds.

It would appear, at first sight, an unnecessary thing to remind farmers and gardeners of one of the most important and self evident truths connected with the practice of their art, viz., the

importance of exercising the greatest care in selecting *pure and sound seed*; but observation and experience too plainly show that in numerous instances, such precautions are in a great measure practically disregarded. Hence it is that both our farm and garden crops are not only inferior both as regards quantity and quality, but the soil is filled with pernicious weeds, most difficult and expensive to eradicate.

In a recent number of the English Agricultural Society's Journal, there is a valuable paper on this subject, by the Messrs. Raynbird, of Essex, who are among the most extensive and respectable seed-growers in Britain. The following facts, chiefly taken from that article, cannot fail to interest our readers on this side of the Atlantic, where it is to be feared a great many old and impure seeds, partly, perhaps, because they are sold cheap, are extensively purchased, to the great loss and annoyance of our farmers and gardeners.

Seeds are adulterated with old seed and with dead seed, and with other seed. Thus clovers of the last year's growth are mixed with the remainders of old stocks, either dead or with vitality impaired—red clover is mixed with the cheaper article trefoil—white clover with red suckling, when that happens to be the cheaper of the two, and it is moreover sometimes colored to make it resemble alsike clover.

Turnip seeds, too, are mixed with dead and refuse samples and with rape seed, sometimes killed to save detection in the crop.

Rye grass seed is mixed with seed of the worthless *Holcus lanatus*—soft meadow grass; and the high-priced Italian rye grass is especially liable to adulteration of this kind, though its awn should make any admixture with it easy of detection. Let us here quote from Mr. Raynbird a passage indicating the general prevalence of dishonesty of this kind:—"Although with the farmer and country dealer some of the London trade get the credit of these tricks, they sometimes extend to the country; as shown by the following transaction, in which I was personally concerned. Some five or six years since, towards the end of the seed season, I bought of a well-to-do country dealer, who has a high reputation for respectability, and who has (it is said) amassed a large fortune by his dealings, some 50 or 60 quarters of what appeared to be a fine parcel of Italian rye grass, the want of the usually characteristic awn on a part of the seed being attributed to over-ripening, or some such cause. This sample was immediately re-sold to Mr. William Skirving, the well-known seedsman of Liverpool, one of the most straightforward and honorable men in the trade, who made