

	Gingko Nuts	Lotus Seeds	Almonds
Protein (N x 6.25) .....	13.1	21.3	25.0
Starch .....	67.9	47.0	none
Fat (ether ext.) .....	2.9	2.6	57.3
Ash .....	3.4	4.5	2.7
Fiber .....	1.0	2.8	3.1
Pentosans .....	1.6	3.6	3.8
Cane Sugar .....	Not det.	Not det.	2.1

The iodine absorption number of the fat of the almond was 92.3 per cent. and its reading on the Zeiss butyrorefractometer 70.5° at 15.5°, its refractive index being 1.4726.

The lotus seeds were distilled with  $\frac{N}{1}H_2SO_4$  and no HCN could be detected in the distillate, showing that no glucoside is present capable of forming HCN.

Analyses were made of the ash of the seeds. The material being charred below redness, extracted with dilute HCl and charred to a white ash and added to the first HCl solution.

Iron and aluminum were separated by the basic acetate method, and determined where present in sufficient amount. Calcium was determined in the filtrate in acetic acid solution. Separate portions were used for alkalis and  $P_2O_5$ .

	Gingko Nuts	Lotus Seeds	Almonds
Fe <sub>2</sub> O <sub>3</sub> .....	0.05	0.08	trace
Manganese .....	trace	trace	trace
CaO .....	1.0	6.25	10.70
MgO .....	7.0	9.23	13.80
P <sub>2</sub> O <sub>5</sub> .....	14.7	37.00	37.50
Na <sub>2</sub> O .....	trace	0.1	trace
K <sub>2</sub> O .....	55.2	36.9	34.6

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### NOTE.

*Determination of Crude Fiber.*—Owing to the large number of crude fiber determinations required of this laboratory—1700 were made the past year—it is impossible to adhere strictly to the official method as laid down in Bulletin 46, and the following modification is used:

Weigh 2 g. of the substance in an S. and S. Hülsen capsule. Dry for four hours in water oven. Extract with ordinary ether or use the residue from the determination of the ether extract. To this residue, in a graduated 700 cc. lipped beaker, add 200 cc. of boiling, 1.25 per cent. sulphuric acid; cover the beaker with a watch glass. Boil at once and continue boiling for thirty minutes, being careful to keep the volume to

200 cc. Filter on a Büchner funnel, using a linen filter; wash with boiling water till the washings are no longer acid; wash the substance back into the same flask with 200 cc. of a boiling, 1.25 per cent. solution of sodium hydroxide, free, or nearly so, from sodium carbonate; boil at once and continue the boiling for thirty minutes in the same manner as directed above for the treatment with acid. Filter on a glass funnel, using Hirsch's porcelain filter plate, asbestos pad one fourth inch thick, and suction. Wash six times with boiling water, once with 10 cc. glacial acetic acid (1 part acetic acid to 20 parts of water); wash again six times with boiling water and twice with 95 per cent. alcohol. Transfer asbestos pad and substance to a platinum dish; dry four hours at 110°, weigh and incinerate completely. The loss in weight is crude fiber.

To obtain concordant results it is necessary to treat the asbestos with boiling 1:2 hydrochloric acid for two or three days. Wash free from acid and digest with boiling soda solution for two or three days; wash free from soda; dry and incinerate. The asbestos may be used over and over again.

It is found convenient to rig up two seven or eight liter flasks over the filtering apparatus to hold boiling water, for washing the substances.

By following the above method, two men find no difficulty in digesting and transferring twenty-four substances in 3 1/2 hours. Checks of 0.2 per cent. are easily obtained, and generally the duplicates come closer than the above limit.

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### CORRECTION.

*The Specific Heat of Solids at Constant Volume, and the Law of Dulong and Petit.*—The paper under the foregoing title, which appeared in the August number of this Journal went to press without revision of the proof by the author, and a number of typographical errors thus crept in:

On page 1165, last line, for  $C_v$  read  $c_v$ .

On page 1166, equation (4) should read,

$$c_p - c_v = \frac{T \beta^2 v}{\alpha}$$

On page 1167, the equation should be numbered (5).

On page 1167, fifth line from bottom, for  $\alpha$  read  $\beta$ .

On page 1168 the value of  $C_v$  for aluminum should be 5.6 and for zinc .7. The value of  $\Delta_2$  for cadmium should be 0.0 instead of 0.5. This