

B
A
L
B
M
7 (F-1-6).

Materials and Method

Sample collection

B (*Vigna subterranean*)
hypogea)
D
M
K
N
N
B
Arachis hypogea.

B
K
B

Methods

Proximate Analysis

Calculation

$$\% \text{ Moisture} = \frac{W_2 - W_3}{W_2 - W_1} \times 100$$

1. Weigh 5g of sample in a pre-weighed container (W₁)
 2. Dry the sample in a hot air oven at 105°C for 24 hours (W₂)
 3. Dry the sample in a desiccator over anhydrous calcium chloride for 24 hours (W₃)

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Determination of Ash Content

1. Weigh 5g of sample in a pre-weighed container (W₁)
 2. Dry the sample in a hot air oven at 105°C for 24 hours (W₂)
 3. Ash the sample in a muffle furnace at 550°C for 4 hours (W₃)

Calculation

$$\% \text{ Ash} = \frac{\text{Weight of ash}}{\text{Weight of sample}} \times 100$$

$$= \frac{W_3 - W_1}{W_2 - W_1} \times 100$$

Determination of Crude Protein

Principle

1. Weigh 5g of sample in a pre-weighed container (W₁)
 2. Dry the sample in a hot air oven at 105°C for 24 hours (W₂)
 3. Ash the sample in a muffle furnace at 550°C for 4 hours (W₃)
 4. Weigh 0.5g of the ashed sample in a pre-weighed container (W₄)
 5. Add 10ml of 0.02M sodium hydroxide solution to the container (W₅)
 6. Add 10ml of 40% NaOH solution to the container (W₆)
 7. Add 10ml of 10% NaOH solution to the container (W₇)
 8. Add 10ml of 5% NaOH solution to the container (W₈)
 9. Add 10ml of 2% NaOH solution to the container (W₉)
 10. Add 10ml of 0.02M sodium hydroxide solution to the container (W₁₀)

Calculation

$$\% \text{ Crude Protein} = \frac{\text{Pg}}{\text{Weight of sample used}} \times 100$$

1. Weigh 5g of sample in a pre-weighed container (W₁)
 2. Dry the sample in a hot air oven at 105°C for 24 hours (W₂)
 3. Ash the sample in a muffle furnace at 550°C for 4 hours (W₃)
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 8. Add 10ml of 5% NaOH solution to the container (W₈)
 9. Add 10ml of 2% NaOH solution to the container (W₉)
 10. Add 10ml of 0.02M sodium hydroxide solution to the container (W₁₀)

Determination of Crude Fat

1. Weigh 5g of sample in a pre-weighed container (W₁)
 2. Dry the sample in a hot air oven at 105°C for 24 hours (W₂)
 3. Ash the sample in a muffle furnace at 550°C for 4 hours (W₃)
 4. Weigh 0.5g of the ashed sample in a pre-weighed container (W₄)
 5. Add 10ml of 0.02M sodium hydroxide solution to the container (W₅)
 6. Add 10ml of 40% NaOH solution to the container (W₆)
 7. Add 10ml of 10% NaOH solution to the container (W₇)
 8. Add 10ml of 5% NaOH solution to the container (W₈)
 9. Add 10ml of 2% NaOH solution to the container (W₉)
 10. Add 10ml of 0.02M sodium hydroxide solution to the container (W₁₀)

1 = ...
 2 = ...
 3 = ... (3.)

Determination of Total Carbohydrate

... 4. ... 100%.

Calculation

$$\% \text{ Carbohydrate} = 100 (\% M - \% A - \% F - \% F_3)$$

Mineral Element Analysis

Determination of Mineral Elements

... (AA)
 5. ...
 ... F ... (5.)
 60-C ... 550-C;
 1N HN ... 400°C ... 15 ...
 ... 10. ... 1NHC ...
 ... 50. ... 0.1NHC ...
 ... 0.1NHC ... N, K, C ...

Statistical Analysis

... A ... D ... 0.05.

Result and Discussion

Results

Proximate Composition

... 1. A ... (<0.05) ... (<0.05). H ... (<0.05) (1).

Table 1: Mean of Proximate Compositions of Bambaranut and Groundnut Varieties.

Proximate Composition (%)	Bambaranut	Groundnut
Moisture	62.4 ± 0.5	62.4 ± 0.5
Carbohydrate	11.5 ± 0.2	11.5 ± 0.2
Crude protein	19.5 ± 0.3	19.5 ± 0.3
Crude fibre	6.5 ± 0.1	6.5 ± 0.1
Ash	11.5 ± 0.2	11.5 ± 0.2
Crude fat	11.5 ± 0.2	11.5 ± 0.2

Ü. standard deviation. Values on the same column are different (p < 0.05).

Mineral Composition

... 2. A ... (<0.05) ... B ... G ... H ... (<0.05) ... L ... (1).

Discussion

I N ... H ... F ... 80 ... 90% ... I ... 19. ... N ... (B ... (*V. subterranea*) ... (G ... (*Arachis-hypogea*), ... N ... L ... H ... C ...

F
1
14.66, 0.577%
(*V. subterranea*)
G
20
19%
B
(*V. subterranea*).
15
15
B

...
140.
GIÉAYæ\æáSÉÖæcÁÖÉÁØ~\~ááTÉÁVæ{æ\[@áSÉÁYæcæ}æá^ÁYÉÁ^cáæ]ÉÁÇG€€TĐÁÖi^cæi~Á

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Ú:[c^á]Ác~]Á^Áá)Ááæ{ áæíæ)~cá•^Áá•KÁU^!•]Á^çíç^Á•- [íááí^cæi~Á]! [c^á]Á•~] [íÁá]Á
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