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GK Pavan Kumar

P.G. Scholar, Dept. of Genetics and Plant Breeding, Agricultural College, Mahanandi, Andhra Pradesh, India

AVS Durga Prasad

Associate Professor, Dept. of Genetics and Plant Breeding, Agricultural College, Mahanandi, Andhra Pradesh, India

CV Chandra Mohan Reddy

Senior Scientist (Small millets) RARS, Nandyal, Andhra Pradesh, India

Correspondence GK Pavan Kumar P.G. Scholar, Dept. of Genetics and Plant Breeding, Agricultural College, Mahanandi, Andhra Pradesh, India

Nutritional composition of elite genetic resources of foxtail millet (*Setaria italica* (L.) Beauv)

GK Pavan Kumar, AVS Durga Prasad and CV Chandra Mohan Reddy

Abstract

Foxtail millet grains possess enormous nutrients content that enable to tackle lifestyle diseases including obesity, diabetes etc. The genetic resources studied exhibited highly significant differences for all the nutritional parameters *viz.*, protein, carbohydrate, calcium, magnesium, iron, zinc, copper and manganese. Large amount of variation was observed among the genotypes for protein content ranging from 10.50 to 18.38 percent with a mean value of 14.10 per cent. The mean value of carbohydrate content was 61.87 per cent and ranged from 50.05 and 76.42 per cent. The genotypes for calcium content ranged between 16.00 and 40.00 per cent and overall mean was 24.03 per cent. Considerable variation was also observed for magnesium per cent ranging from 4.80 to 31.20 with a mean value of 15.10. The overall mean value of iron content was 10.88 per cent and ranged from 4.42 and 32.50 per cent. The mean values for zinc ranged between 1.53 and 7.07 per cent and overall mean was 3.26 per cent. Considerable variation was also observed for copper per cent ranging from 0.86 to 2.76 with a mean value of 1.26. The mean values for manganese ranged between 1.31 and 4.12 per cent and overall mean was 2.33 per cent. Results indicated that ample scope is available to exploit nutrients for the health and therapeutic benefits of consumers. The most promising genotypes for nutritional characters may be chosen as 'donors' for utilization in biofortification programmes of this millet.

Keywords: Millet, foxtail millet Nutrition, Health, protein, carbohydrate, calcium, magnesium, iron, zinc, copper and manganese

Introduction

Millets are ancient Super grains that serve as a 'nutritional repositories' (nutri-cereals) for a better human health. They are the potential food cum fodder crops that are primarily grown in arid and semi-arid tracts of the globe. In the recent past, millets are rapidly gaining immense attention, owing to their demand from health-conscious consumers and their unique ability to adapt for climate-resilient agriculture. Judging any nutritional parameter, millets are miles ahead of rice and wheat in terms of their mineral content compared to rice and wheat (Gopalan *et al*, 2007)^[1], (Kamatar, 2013)^[3]. Healthy therapeutic foods and ready to eat food products can be prepared from millets for maintenance of good health (Kamatar, 2013)^[3]. Realizing the importance of millets, the Government of India (GOI) had observed the year 2018 as 'National Year of Millets' to boost domestic production and achieve self-sufficiency. Besides the GOI went a step forward and even sent a proposal to U.N. Food and Agriculture Organization which after careful examination endorsed India's view and declared 2023 as the 'International Year of Millets'.

Among the small millets, foxtail millet (*Eleusine coarcana* (L.) Beauv), ranks second in economic importance, next to finger millet in terms of global production. It is fairly tolerant to drought and owing to its quick growing ability, it can be grown as a short term catch crop. Its grains are rich in protein (leucine and methionine), β carotene, minerals (Ca, Fe, K, Mg and Zn), antioxidants, dietary fibre, phytochemicals and vitamins - B₁, B₂ & B₃ (Rai, 2002)^[5] and besides, possess low glycemic index, a requisite for healthy human diet (Murugan and Nirmalakumari, 2006)^[4]. The grains with husk intact have long shelf life which is a preferable attribute (Ravi *et al*, 2010)^[6]. A high intake of millet based dietary fiber, improves glycemic control, decreases hyperinsulinemia, and lowers plasma lipid concentrations in patients with type 2 diabetes in human beings (Jali *et al*, 2012)^[4]. Besides, consumption of this millet may prevent cardiovascular disease through reduction of plasma triglycerides.

Although enormous health benefits are offered by foxtail millet, the crop remained as a neglected crop from the mainstream of crop improvement research, compared to cereals such

as maize, rice, wheat, sorghum, and pearl millet, mainly due to difficulties in processing (de-husking), farm operations (lack of suitable farm machinery) and Government policies benefitting fine-grained cereals. However in the recent past, this crop drew much attention mainly due to its amenability to climate-resilient agriculture and paradigm shift in Government policies encouraging millets on account of heavy market demand from consumers. Therefore, there is an urgent need to assess the foxtail millet genetic resources for their improvement in the grain, with respect to nutritive profile coupled with high yields. Keeping the aforesaid points in view, the present investigation was undertaken to assess the variability for nutrition parameters in germplasm of foxtail millet, so that highly nutritive genotypes can be exploited by the food industry and used in the ready to eat food products for the benefit of public health.

Material and Methods

Hundred foxtail millet genetic resources including four checks were laid in an Augmented randomized complete block design (ARCBD) during *Kharif*, 2018 in order to assess their nutritive profile. The experiment was carried out at an altitude of 211.3 m above mean sea level, latitude of 18.29°N and longitude of 78.29° E at Regional Agricultural Research Station, Nandyal, Andhra Pradesh, India. The net plot size was 40 x 3 m² with a recommended spacing of 22.5 cm x 10 cm. The experimental data was collected on five randomly selected plants per genetic resource for eight nutritional traits *viz.*, protein, carbohydrate, calcium, magnesium, iron, zinc, copper and manganese contents.

Dehulling

Harvested panicles seeds from this plot were collected cleaned and dehulled using pestle and mortar. The dehulled grains were used for analyzing nutritional characteristics.

Protein analysis

The nitrogen content of the grain was assessed by Kjeldahl method using Kelplus equipment. Protein content was calculated by multiplying with a factor 6.25.

Protein (%) = -

Weight of sample (mg)

Carbohydrate analysis

The carbohydrate content was estimated as per procedure given by Sadasivam and Manickam (1997). Amount of carbohydrate present in 100 mg of the sample can be obtained using the following formula.

Carbohydrate (mg/100g) =
$$\frac{\text{mg of glucose}}{\text{Volume of test sample}} \times 100$$

Minerals estimation:

The trace elements (iron, zinc, copper and manganese) were estimated by wet digestion using triacid mixture. A known aliquot of test sample was suitably diluted and micronutrients in the test sample (Iron, Zinc, Cu and Mn in mg/100) were determined using Atomic Absorption Spectrophotometer.

Estimation of mineral nutrients (Iron, Zinc, Cu and Mn in mg/100) by Di-acid mixture method

| Nutrient Conc. (ppm) = | Graph ppm x Vol. of digested sample |
|-------------------------|-------------------------------------|
| Nutrient Conc. (ppin) – | Weight of sample |

Estimation of Calcium and Magnesium by titration method

Volume of Sample extract

T.V X Normality of EDTA X 1000

Volume of Sample extract

Results and Discussion

The analysis of variance for nutritional quality parameters was carried out in 100 genetic resources of foxtail millet. The results are presented in Table 1. The genotypes exhibited highly significant differences for all the nutritional parameters *viz.*, protein, carbohydrate, calcium, magnesium, iron, zinc, copper and manganese. The *per se* performance of foxtail millet genotypes for nutritional traits is briefly presented in Table 2.

| Source of variation | d.f | Protein (g/100g) | Carbo hydrate (g/100g) | Calcium (mg/100g) | Magnesium (mg/100g) | Iron (mg/100g) | Zinc (mg/100) | Copper (mg/100g) | Manganese (mg/100g) | |
|-------------------------|-----|---------------------|---------------------------|----------------------|------------------------|-------------------|------------------|---------------------|------------------------|--|
| variation | | Mean sum of squares | | | | | | | | |
| Block | 7 | 0.588 | 0.546 | 0.122 | 0.16 | 0.104 | 0 | 0.001 | 0.027 | |
| Entries | 99 | 2.922 ** | 57.173 ** | 34.524 ** | 43.080 ** | 42.754 ** | 1.437 ** | 0.452 ** | 0.233 ** | |
| Checks | 3 | 5.320 ** | 4.716 ** | 336.718 ** | 311.224 ** | 250.694 ** | 0.726 ** | 1.195 ** | 0.784 ** | |
| Varieties | 95 | 2.875 ** | 59.345 ** | 24.419 ** | 31.566 ** | 31.096 ** | 1.463 ** | 0.433 ** | 0.215 ** | |
| Checks vs. Varieties | 1 | 0.202 | 8.184 ** | 87.879 ** | 332.457 ** | 526.524 ** | 1.184 ** | 0.062 ** | 0.214 ** | |
| Error | 21 | 0.388 | 0.33 | 0.446 | 0.111 | 0.093 | 0 | 0.002 | 0.012 | |

 Table 1: Analysis of variance for nutritional components in foxtail millet [Setaria italica (L.) Beauv.]

* Significant at 5% level

** Significant at 1% level

| Table 2: Per se performance of 100 foxtail millet [Setaria italica (L.) Beauv.] genetic resources with respect to nutritional p | parameters |
|---|------------|
| | |

| S. N | o. Gen | otype | Protein (g/ 100g) | Carbo hydi (g/ 100g) | | lcium g/ 100g) | Magnesium (mg/ 100g) | (mg/ 100g) | Zinc (mg/ 100g) | Copper (mg/ 100g) | Manganese (mg/ 100g) |
|--|---|---|---|--|--|-------------------------------------|--|---|--|---|--|
| 1 | C. 4 | 2222 | 12.00 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | | 3222 | 12.69 | 63.15 | | 2.00 | 12.00 | 4.65 | 1.62 2.84 | 0.96 | 1.68 |
| 2 | | 3323 | 16.63 | 58.94 | | 28.00 | 12.00 | 12.45 17.08 | 3.05 | 1.04 | 2.13 |
| 3 | | 3657 2745 | 14.44 | 61.14 | | 24.00 | 12.00 | | 3.05 | 1.12 | 2.43 |
| 4 | | | 12.25 | 63.51 | | 24.00 | 12.00 | 13.08 | | 1.05 | 2.33 |
| 5 | | 2579 | 10.50 14.44 | 62.84 | | 28.00 | 16.80 | 13.82 | 3.45 3.50 | 1.01 | 2.30 2.63 |
| <u>6</u> 7 | | A 3627 14. A 4061 14. | | 61.21 56.81 | | 4.00 | 21.60 | 13.96 | 2.99 | 0.98 | |
| | | iA 4001 14 | | | | 20.00 | 14.40 | 12.49 | 2.99 | 1.04 | 2.53 |
| 8 | | | | 62.96 | | 2.00 | 16.80 | 16.63 | | 0.90 | 2.35 |
| 9 | | SiA 2662 17.50 | | 56.14 | | 4.00 | 14.40 | 19.47 | 2.89 | 1.09 | 2.28 |
| 10 | | SiA 2737 13.56 50.93 | 16.00 20.00 | | 19.20 | 9.38 | 3.50 | 0.89 | 2.06 | | |
| 11 | | 3611 13.13 4155 15.33 | | 56.75 | | | 24.00 | 22.50 | 3.01 | 2.76 | 2.50 |
| 12 | | | 15.31 | 53.34 | | 4.00 | 19.20 | 11.72 | 2.93 | 1.23 | 2.30 |
| | 13 SiA 2 | | 14.00 | 51.46 | | 4.00 | 19.20 | 12.53 | 2.97 | 1.15 | 2.44 |
| | 14 SiA 35 | | 14.88 | 61.29 | | 4.00 | 21.60 | 14.79 | 3.02 | 1.23 | 2.49 |
| | 15 SiA 3 | | 12.69 | 62.00 | | 20.00 | 21.60 | 23.62 | 3.11 | 1.16 | 2.70 |
| | 16 SiA | | 13.13 | 57.96 | | 4.00 | 7.20 | 6.55 | 2.71 | 1.13 | 4.12 |
| | 17 SiA | | 11.38 | 64.11 | | 28.00 | 7.20 | 21.12 | 3.63 | 1.85 | 3.07 |
| 18 | | 4016 | 12.69 | 76.42 | | 4.00 | 9.60 | 13.72 | 3.28 | 2.76 | 2.20 |
| 19 | | 4179 | 14.44 | 50.11 | | 20.00 | 14.40 | 7.06 | 2.36 | 1.07 | 2.04 |
| 20 | | 3498 | 14.88 | 58.57 | | 20.00 | 21.60 | 13.70 | 2.43 | 2.75 | 2.05 |
| 21 | | 4107 | 14.88 | 52.99 | | 20.00 | 19.20 | 14.54 | 2.36 | 1.06 | 2.01 |
| 22 | | 2674 | 14.00 | 74.16 | | 4.00 | 14.40 | 12.65 | 2.35 | 1.11 | 1.99 |
| 23 | | 2697 | 16.63 | 73.40 | | 8.00 | 9.60 | 14.94 | 2.41 | 2.75 | 1.75 |
| 24 | | 3516 | 12.69 11.38 | 57.18 | | 6.00 | 19.20 | 16.69 | 3.08 | 2.74 | 1.94 |
| 25 | SiA | SiA 3496 | | 54.18 | | 6.00 | 19.20 | 9.72 | 3.65 | 1.12 | 1.82 |
| | | | | 15.31 52.30 | | 4.00 | 21.60 | 29.00 | 4.04 | 2.74 | 2.61 |
| 26 | SiA | | | | | | | | | | |
| 26 27 | SiA SiA | 3971 | 16.19 | 53.61 | 2 | 4.00 | 19.20 | 13.38 | 3.81 | 1.01 | 2.12 |
| 26 | SiA SiA | | | | 2 | | | | | | 2.12 2.16 |
| 26 27 | SiA SiA | 3971 3038 Pro | 16.19 13.56 | 53.61 | 2 | 24.00 0.00 n M | 19.20 4.80 | 13.38 | 3.81 | 1.01 | |
| 26 27 28 S. No. | SiA SiA SiA Genotype | 3971 3038 Pro (g/ 1 | 16.19 13.56 tein C 100g) 1 | 53.61 66.25 arbo hydrate (g/ 100g) 2 | 2 4 Calciur | 24.00 0.00 n M | 19.20 4.80 | 13.38 9.21 Iron (mg/ 100g) 5 | 3.81 3.03 Zinc (mg/ 100g) 6 | 1.01 2.40 Copper (mg/ 100g) 7 | 2.16 Manganese (mg/ 100g) 8 |
| 26 27 28 S. No. 29 | SiA SiA SiA Genotype SiA 3588 | 3971 3038 Pro (g/ 1 14 | 16.19 13.56 otein C 100g) 1 1.88 | 53.61 66.25 arbo hydrate (g/ 100g) 2 66.99 | 2 4 Calciur (mg/ 100 | 24.00 0.00 n M | 19.20 4.80 (agnesium ng/ 100g) | 13.38 9.21 Iron (mg/ 100g) | 3.81 3.03 Zinc (mg/ 100g) | 1.01 2.40 Copper (mg/ 100g) | 2.16 Manganese (mg/ 100g) |
| 26 27 28 S. No. 29 30 | SiA SiA SiA Genotype SiA 3588 SiA 3737 | 3971 3038 Pro (g/ 1 14 14 | 16.19 13.56 otein C 100g) 1 .88 .88 .88 .88 | 53.61 66.25 arbo hydrate (g/ 100g) 2 | 2 4 Calciur (mg/ 100 3 | 24.00 0.00 n M | 19.20 4.80 (agnesium ng/ 100g) 4 21.60 14.40 | 13.38 9.21 Iron (mg/ 100g) 5 | 3.81 3.03 Zinc (mg/ 100g) 6 | 1.01 2.40 Copper (mg/ 100g) 7 1.67 0.90 | 2.16 Manganese (mg/ 100g) 8 |
| 26 27 28 S. No. 29 30 31 | SiA SiA SiA Genotype SiA 3588 SiA 3737 SiA 3462 | 3971 3038 Pro (g/ 1 14 14 | 16.19 13.56 otein C 100g) 1 1.88 | 53.61 66.25 arbo hydrate (g/ 100g) 2 66.99 59.55 61.94 | 2 4 Calciur (mg/ 100 3 20.00 24.00 20.00 | 24.00 0.00 n M | 19.20 4.80 (agnesium ng/ 100g) 4 21.60 14.40 16.80 | 13.38 9.21 Iron (mg/ 100g) 5 8.54 14.74 9.61 | 3.81 3.03 Zinc (mg/ 100g) 6 3.54 3.14 3.47 | 1.01 2.40 Copper (mg/ 100g) 7 1.67 | 2.16 Manganese (mg/ 100g) 8 2.31 2.04 2.32 |
| 26 27 28 S. No. 29 30 31 32 | SiA SiA SiA Genotype SiA 3588 SiA 3737 SiA 3462 SiA 2671 | 3971 3038 Pro (g/ 1 14 14 14 15 14 | 16.19 13.56 ottein C 100g) 1 88 .88 .75 | 53.61 66.25 arbo hydrate (g/ 100g) 2 66.99 59.55 61.94 72.83 | 24 Calciur (mg/ 100 3 20.00 24.00 20.00 24.00 | 24.00 10.00 m M 0g) (n | 19.20 4.80 agnesium ng/ 100g) 4 21.60 14.40 16.80 14.40 | 13.38 9.21 Iron (mg/ 100g) 5 8.54 14.74 9.61 7.85 | 3.81 3.03 Zinc (mg/ 100g) 6 3.54 3.14 3.47 3.00 | 1.01 2.40 Copper (mg/ 100g) 7 1.67 0.90 1.30 1.05 | 2.16 Manganese (mg/ 100g) 8 2.31 2.04 2.32 1.91 |
| 26 27 28 S. No. 29 30 31 32 33 | SiA SiA SiA Genotype SiA 3588 SiA 3737 SiA 3462 SiA 2671 SiA 3492 | 3971 3038 (g/ 1 14 14 14 15 14 14 | 16.19 13.56 ottein C 100g) 1 88 .75 .00 | 53.61 66.25 66.25 66.99 59.55 61.94 72.83 55.57 | 2 Calciur (mg/ 100 3 20.00 24.00 24.00 24.00 24.00 | 24.00 0.00 n M 0g) (r | 19.20 4.80 agnesium ng/ 100g) 4 21.60 14.40 16.80 14.40 21.60 | 13.38 9.21 Iron (mg/ 100g) 5 8.54 14.74 9.61 7.85 8.18 | 3.81 3.03 Zinc (mg/ 100g) 6 3.54 3.14 3.47 3.00 3.53 | 1.01 2.40 Copper (mg/ 100g) 7 1.67 0.90 1.30 1.05 0.91 | 2.16 Manganese (mg/ 100g) 8 2.31 2.04 2.32 1.91 2.22 |
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| 26 27 28 5. No. 29 30 31 32 33 34 35 36 37 38 39 40 | SiA SiA SiA SiA SiA SiA 3588 SiA 3737 SiA 3462 SiA 3462 SiA 3492 SiA 3492 SiA 3429 SiA 4063 SiA 3793 SiA 805 SiA 3855 SiA 3855 SiA 3420 SiA 4167 | 3971 3038 Pro (g/ 1 14 14 14 14 14 14 14 14 14 1 | 16.19 13.56 otein C 100g) C 1 <td>53.61 66.25 arbo hydrate (g/ 100g) 2 66.99 59.55 61.94 72.83 55.57 54.14 57.36 51.34 64.86 57.36 51.20</td> <td>2 Calciur (mg/ 100 3 20.00 24.00</td> <td>24.00 0.00 n M 0g) (r</td> <td>19.20 4.80 ragnesium ng/ 100g) 4 21.60 14.40 16.80 14.40 21.60 14.40 9.60 9.60 9.60 9.60 9.60 9.60 9.60 9.60 9.60</td> <td>13.38 9.21 Iron (mg/ 100g) 5 8.54 14.74 9.61 7.85 8.18 23.60 5.74 7.19 6.59 10.05 6.52 5.99</td> <td>3.81 3.03 Zinc (mg/ 100g) 6 3.54 3.14 3.47 3.00 3.53 3.35 2.39 2.65 2.40 2.53 2.31 2.39</td> <td>1.01 2.40 Copper (mg/ 100g) 7 1.67 0.90 1.30 1.05 0.91 0.90 1.63 0.91 0.89 2.70 0.91 2.72</td> <td>2.16 Manganese (mg/ 100g) 8 2.31 2.04 2.32 1.91 2.22 2.05 2.10 2.23 2.20 2.26 2.26 2.29</td> | 53.61 66.25 arbo hydrate (g/ 100g) 2 66.99 59.55 61.94 72.83 55.57 54.14 57.36 51.34 64.86 57.36 51.20 | 2 Calciur (mg/ 100 3 20.00 24.00 | 24.00 0.00 n M 0g) (r | 19.20 4.80 ragnesium ng/ 100g) 4 21.60 14.40 16.80 14.40 21.60 14.40 9.60 9.60 9.60 9.60 9.60 9.60 9.60 9.60 9.60 | 13.38 9.21 Iron (mg/ 100g) 5 8.54 14.74 9.61 7.85 8.18 23.60 5.74 7.19 6.59 10.05 6.52 5.99 | 3.81 3.03 Zinc (mg/ 100g) 6 3.54 3.14 3.47 3.00 3.53 3.35 2.39 2.65 2.40 2.53 2.31 2.39 | 1.01 2.40 Copper (mg/ 100g) 7 1.67 0.90 1.30 1.05 0.91 0.90 1.63 0.91 0.89 2.70 0.91 2.72 | 2.16 Manganese (mg/ 100g) 8 2.31 2.04 2.32 1.91 2.22 2.05 2.10 2.23 2.20 2.26 2.26 2.29 |
| 26 27 28 5. No. 29 30 31 32 33 34 35 36 37 38 39 40 41 | SiA SiA SiA SiA SiA SiA 3588 SiA 3737 SiA 3462 SiA 3462 SiA 3492 SiA 3492 SiA 3492 SiA 3492 SiA 3492 SiA 3493 SiA 3793 SiA 305 SiA 3855 SiA 3855 SiA 3420 SiA 4167 SiA 2864 | 3971 3038 Pro (g/ 1 14 14 14 14 14 14 14 14 14 1 | 16.19 13.56 otein C 100g) C 1 88 <td>53.61 66.25 arbo hydrate (g/ 100g) 2 66.99 59.55 61.94 72.83 55.57 54.14 57.36 51.34 64.86 57.36 51.20 75.67</td> <td>2 Calciur (mg/ 100 3 20.00 24.00</td> <td>24.00 0.00 n M 0g) (r</td> <td>19.20 4.80 Iagnesium ng/ 100g) 4 21.60 14.40 16.80 14.40 21.60 14.40 9.60 9.60 9.60 9.60 9.60 9.60 7.20 12.00</td> <td>13.38 9.21 Iron (mg/ 100g) 5 8.54 14.74 9.61 7.85 8.18 23.60 5.74 7.19 6.59 10.05 6.52 5.99 7.88</td> <td>3.81 3.03 Zinc (mg/ 100g) 6 3.54 3.14 3.47 3.00 3.53 3.35 2.39 2.65 2.40 2.53 2.31 2.39 2.32</td> <td>1.01 2.40 Copper (mg/ 100g) 7 1.67 0.90 1.30 1.05 0.91 0.90 1.63 0.91 0.89 2.70 0.91 2.72 0.90</td> <td>2.16 Manganese (mg/ 100g) 8 2.31 2.04 2.32 1.91 2.22 2.05 2.10 2.23 2.20 2.26 2.26 2.29 2.08</td> | 53.61 66.25 arbo hydrate (g/ 100g) 2 66.99 59.55 61.94 72.83 55.57 54.14 57.36 51.34 64.86 57.36 51.20 75.67 | 2 Calciur (mg/ 100 3 20.00 24.00 | 24.00 0.00 n M 0g) (r | 19.20 4.80 Iagnesium ng/ 100g) 4 21.60 14.40 16.80 14.40 21.60 14.40 9.60 9.60 9.60 9.60 9.60 9.60 7.20 12.00 | 13.38 9.21 Iron (mg/ 100g) 5 8.54 14.74 9.61 7.85 8.18 23.60 5.74 7.19 6.59 10.05 6.52 5.99 7.88 | 3.81 3.03 Zinc (mg/ 100g) 6 3.54 3.14 3.47 3.00 3.53 3.35 2.39 2.65 2.40 2.53 2.31 2.39 2.32 | 1.01 2.40 Copper (mg/ 100g) 7 1.67 0.90 1.30 1.05 0.91 0.90 1.63 0.91 0.89 2.70 0.91 2.72 0.90 | 2.16 Manganese (mg/ 100g) 8 2.31 2.04 2.32 1.91 2.22 2.05 2.10 2.23 2.20 2.26 2.26 2.29 2.08 |
| 26 27 28 5. No. 29 30 31 32 33 34 35 36 37 38 39 40 41 42 | SiA SiA SiA SiA SiA SiA 3588 SiA 3737 SiA 3462 SiA 3462 SiA 3429 SiA 4063 SiA 3793 SiA 305 SiA 3855 SiA 3420 SiA 3420 SiA 3420 SiA 3420 SiA 3420 SiA 3420 SiA 3409 | 3971 3038 Pro (g/ 1 14 14 14 14 14 14 14 12 14 14 12 14 14 15 14 14 15 14 14 15 14 14 15 14 14 14 15 14 14 14 15 14 14 14 15 14 14 15 14 14 14 15 14 14 14 15 14 14 15 14 14 14 15 14 14 14 15 14 14 14 15 14 14 15 14 14 14 15 14 14 15 14 14 15 14 14 15 14 14 14 15 14 14 14 15 14 14 14 15 14 14 14 15 14 14 15 14 14 14 15 14 14 14 15 14 14 14 15 14 14 15 14 14 15 14 14 15 14 14 15 14 14 15 14 14 15 14 14 15 14 14 15 14 14 15 14 14 15 14 14 15 14 14 15 14 14 15 14 14 15 14 14 15 16 14 14 15 16 14 14 15 16 14 14 15 16 14 14 15 16 14 14 15 16 14 14 15 16 14 14 15 16 14 14 15 16 14 14 15 16 14 14 15 16 14 14 15 16 14 14 15 16 14 14 15 16 14 14 15 16 14 14 15 16 14 14 15 16 14 14 15 16 16 16 16 16 16 16 16 16 16 | 16.19 13.56 otein C 100g) C 1 <td>53.61 66.25 arbo hydrate (g/ 100g) 2 66.99 59.55 61.94 72.83 55.57 54.14 57.36 51.34 64.86 57.36 51.20 75.67 56.26</td> <td>2 Calciur (mg/ 100 3 20.00 24.00</td> <td>24.00 0.00 n M 0g) (r</td> <td>19.20 4.80 (agnesium ng/ 100g) 4 21.60 14.40 16.80 14.40 21.60 14.40 9.60 9.60 9.60 9.60 9.60 7.20 12.00 7.20</td> <td>13.38 9.21 Iron (mg/ 100g) 5 8.54 14.74 9.61 7.85 8.18 23.60 5.74 7.19 6.59 10.05 6.52 5.99 7.88 6.19</td> <td>3.81 3.03 Zinc (mg/ 100g) 6 3.54 3.14 3.47 3.00 3.53 3.35 2.39 2.65 2.40 2.53 2.31 2.39 2.32 2.47</td> <td>1.01 2.40 Copper (mg/ 100g) 7 1.67 0.90 1.30 1.05 0.91 0.90 1.63 0.91 0.89 2.70 0.91 2.72 0.90 0.89</td> <td>2.16 Manganese (mg/ 100g) 8 2.31 2.04 2.32 1.91 2.22 2.05 2.10 2.23 2.20 2.26 2.26 2.29 2.08 2.30</td> | 53.61 66.25 arbo hydrate (g/ 100g) 2 66.99 59.55 61.94 72.83 55.57 54.14 57.36 51.34 64.86 57.36 51.20 75.67 56.26 | 2 Calciur (mg/ 100 3 20.00 24.00 | 24.00 0.00 n M 0g) (r | 19.20 4.80 (agnesium ng/ 100g) 4 21.60 14.40 16.80 14.40 21.60 14.40 9.60 9.60 9.60 9.60 9.60 7.20 12.00 7.20 | 13.38 9.21 Iron (mg/ 100g) 5 8.54 14.74 9.61 7.85 8.18 23.60 5.74 7.19 6.59 10.05 6.52 5.99 7.88 6.19 | 3.81 3.03 Zinc (mg/ 100g) 6 3.54 3.14 3.47 3.00 3.53 3.35 2.39 2.65 2.40 2.53 2.31 2.39 2.32 2.47 | 1.01 2.40 Copper (mg/ 100g) 7 1.67 0.90 1.30 1.05 0.91 0.90 1.63 0.91 0.89 2.70 0.91 2.72 0.90 0.89 | 2.16 Manganese (mg/ 100g) 8 2.31 2.04 2.32 1.91 2.22 2.05 2.10 2.23 2.20 2.26 2.26 2.29 2.08 2.30 |
| 26 27 28 5. No. 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 | SiA SiA SiA SiA SiA SiA 3588 SiA 3737 SiA 3462 SiA 3462 SiA 3429 SiA 4063 SiA 3793 SiA 305 SiA 3855 SiA 3420 SiA 3420 SiA 3420 SiA 3420 SiA 3420 SiA 3420 SiA 3409 SiA 3409 SiA 4027 | 3971 3038 Pro (g/ 1) 14 14 14 14 14 14 14 14 14 14 14 15 14 15 14 15 14 15 16 14 15 14 12 13 16 14 12 12 12 12 12 12 12 12 12 | 16.19 13.56 otein C 100g) C 1 < | 53.61 66.25 arbo hydrate (g/ 100g) 2 66.99 59.55 61.94 72.83 55.57 54.14 57.36 51.34 64.86 57.36 51.20 75.67 56.26 52.03 | 2 Calciur (mg/ 100 3 20.00 24.00 20.00 24.00 20.00 | 24.00 0.00 n M 0g) (r | 19.20 4.80 (agnesium ng/ 100g) 4 21.60 14.40 16.80 14.40 21.60 14.40 9.60 9.60 9.60 9.60 7.20 12.00 7.20 31.20 | 13.38 9.21 Iron (mg/ 100g) 5 8.54 14.74 9.61 7.85 8.18 23.60 5.74 7.19 6.59 10.05 6.52 5.99 7.88 6.19 11.03 | 3.81 3.03 Zinc (mg/ 100g) 6 3.54 3.14 3.47 3.00 3.53 3.35 2.39 2.65 2.40 2.53 2.31 2.32 2.47 2.40 | 1.01 2.40 Copper (mg/ 100g) 7 1.67 0.90 1.30 1.05 0.91 0.90 1.63 0.91 0.89 2.70 0.91 2.72 0.90 0.89 2.73 | 2.16 Manganese (mg/ 100g) 8 2.31 2.04 2.32 1.91 2.22 2.05 2.10 2.23 2.20 2.26 2.26 2.29 2.08 2.30 2.30 2.36 |
| 26 27 28 5. No. 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 | SiA SiA SiA SiA SiA SiA 3588 SiA 3588 SiA 3737 SiA 3462 SiA 3462 SiA 3429 SiA 3429 SiA 4063 SiA 3793 SiA 805 SiA 3855 SiA 3420 SiA 4167 SiA 2864 SiA 3409 SiA 4027 SiA 3423 | 3971 3038 Pro (g/ 1) 14 14 14 14 14 14 14 14 14 14 14 15 14 17 13 16 14 15 14 17 13 16 14 15 14 15 14 12 12 12 12 12 12 12 12 12 14 | 16.19 13.56 otein C 100g) C 1 </td <td>53.61 66.25 arbo hydrate (g/ 100g) 2 66.99 59.55 61.94 72.83 55.57 54.14 57.36 65.82 51.34 64.86 57.36 51.20 75.67 56.26 52.03 57.51</td> <td>2 Calciur (mg/ 100 3 20.00 24.00 20.00 24.00 20.00 24.00 20.00 24.00 20.00 24.00 20.00</td> <td>24.00 0.00 n M 0g) (r</td> <td>19.20 4.80 ragnesium ng/ 100g) 4 21.60 14.40 16.80 14.40 21.60 14.40 9.60 9.60 9.60 9.60 7.20 12.00 7.20 31.20 14.40</td> <td>13.38 9.21 Iron (mg/ 100g) 5 8.54 14.74 9.61 7.85 8.18 23.60 5.74 7.19 6.59 10.05 6.52 5.99 7.88 6.19 11.03 10.47</td> <td>3.81 3.03 Zinc (mg/ 100g) 6 3.54 3.14 3.47 3.00 3.53 3.35 2.39 2.65 2.40 2.32 2.47 2.40 2.55</td> <td>1.01 2.40 Copper (mg/ 100g) 7 1.67 0.90 1.30 1.05 0.91 0.90 1.63 0.91 0.89 2.70 0.91 2.72 0.90 0.89 2.73 0.90</td> <td>2.16 Manganese (mg/ 100g) 8 2.31 2.04 2.32 1.91 2.22 2.05 2.10 2.23 2.20 2.26 2.26 2.29 2.08 2.30 2.30 2.36 2.16</td> | 53.61 66.25 arbo hydrate (g/ 100g) 2 66.99 59.55 61.94 72.83 55.57 54.14 57.36 65.82 51.34 64.86 57.36 51.20 75.67 56.26 52.03 57.51 | 2 Calciur (mg/ 100 3 20.00 24.00 20.00 24.00 20.00 24.00 20.00 24.00 20.00 24.00 20.00 | 24.00 0.00 n M 0g) (r | 19.20 4.80 ragnesium ng/ 100g) 4 21.60 14.40 16.80 14.40 21.60 14.40 9.60 9.60 9.60 9.60 7.20 12.00 7.20 31.20 14.40 | 13.38 9.21 Iron (mg/ 100g) 5 8.54 14.74 9.61 7.85 8.18 23.60 5.74 7.19 6.59 10.05 6.52 5.99 7.88 6.19 11.03 10.47 | 3.81 3.03 Zinc (mg/ 100g) 6 3.54 3.14 3.47 3.00 3.53 3.35 2.39 2.65 2.40 2.32 2.47 2.40 2.55 | 1.01 2.40 Copper (mg/ 100g) 7 1.67 0.90 1.30 1.05 0.91 0.90 1.63 0.91 0.89 2.70 0.91 2.72 0.90 0.89 2.73 0.90 | 2.16 Manganese (mg/ 100g) 8 2.31 2.04 2.32 1.91 2.22 2.05 2.10 2.23 2.20 2.26 2.26 2.29 2.08 2.30 2.30 2.36 2.16 |
| 26 27 28 5. No. 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 | SiA SiA SiA SiA SiA SiA 3588 SiA 3588 SiA 3737 SiA 3462 SiA 3462 SiA 3429 SiA 3429 SiA 4063 SiA 3793 SiA 305 SiA 3855 SiA 3420 SiA 4167 SiA 2864 SiA 3409 SiA 4027 SiA 3423 SiA 4181 | 3971 3038 Pro (g/ 1) 14 14 14 14 14 14 14 14 14 14 14 14 15 14 17 13 16 14 15 14 15 14 15 14 15 14 15 14 15 14 15 14 15 14 15 | 16.19 13.56 otein C 100g) 1 .88 .88 .00 .00 .00 .13 .19 .00 .31 .44 .25 .88 .75 | 53.61 66.25 arbo hydrate (g/ 100g) 2 66.99 59.55 61.94 72.83 55.57 54.14 57.36 65.82 51.34 64.86 57.36 51.20 75.67 56.26 52.03 57.51 63.39 | 2 Calciur (mg/ 100 3 20.00 24.00 | 24.00 0.00 n M 0g) (r | 19.20 4.80 (agnesium ng/ 100g) 4 21.60 14.40 16.80 14.40 21.60 14.40 9.60 9.60 9.60 7.20 12.00 7.20 31.20 14.40 16.80 | 13.38 9.21 Iron (mg/ 100g) 5 8.54 14.74 9.61 7.85 8.18 23.60 5.74 7.19 6.59 10.05 6.52 5.99 7.88 6.19 11.03 10.47 8.28 | 3.81 3.03 Zinc (mg/ 100g) 6 3.54 3.14 3.47 3.00 3.53 3.35 2.39 2.65 2.40 2.53 2.31 2.32 2.47 2.40 2.55 3.12 | 1.01 2.40 Copper (mg/ 100g) 7 1.67 0.90 1.30 1.05 0.91 0.90 1.63 0.91 0.89 2.70 0.91 2.72 0.90 0.89 2.73 0.90 2.75 | 2.16 Manganese (mg/ 100g) 8 2.31 2.04 2.32 1.91 2.22 2.05 2.10 2.23 2.20 2.26 2.26 2.29 2.08 2.30 2.30 2.30 2.36 2.16 2.11 |
| 26 27 28 5. No. 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 | SiA SiA | 3971 3038 Pro (g/ 1) 14 14 14 14 14 14 14 14 14 15 14 17 13 16 14 15 14 15 14 15 14 15 14 15 14 15 14 15 14 15 11 | 16.19 13.56 otein C 100g) 1 .88 .88 .00 .00 .13 .19 .06 .31 .44 .25 .88 .75 .88 .13 .14 .25 .88 .75 .88 .75 .81 | 53.61 66.25 arbo hydrate (g/ 100g) 2 66.99 59.55 61.94 72.83 55.57 54.14 57.36 65.82 51.34 64.86 57.36 51.20 75.67 56.26 52.03 57.51 63.39 57.96 | 2 Calciur (mg/ 100 3 20.00 24.00 20.00 24.00 20.00 24.00 20.00 24.00 20.00 24.00 20.00 | 24.00 0.00 n M 0g) (r | 19.20 4.80 /agnesium ng/ 100g) 4 21.60 14.40 16.80 14.40 21.60 14.40 9.60 9.60 9.60 7.20 12.00 7.20 31.20 14.40 16.80 9.60 | 13.38 9.21 Iron (mg/ 100g) 5 8.54 14.74 9.61 7.85 8.18 23.60 5.74 7.19 6.59 10.05 6.52 5.99 7.88 6.19 11.03 10.47 8.28 6.33 | 3.81 3.03 Zinc (mg/ 100g) 6 3.54 3.14 3.47 3.00 3.53 3.35 2.39 2.65 2.40 2.53 2.32 2.47 2.40 2.55 3.12 2.72 | 1.01 2.40 Copper (mg/ 100g) 7 1.67 0.90 1.30 1.05 0.91 0.90 1.63 0.91 0.89 2.70 0.91 2.72 0.90 0.89 2.73 0.90 2.75 2.73 | 2.16 Manganese (mg/ 100g) 8 2.31 2.04 2.32 1.91 2.22 2.05 2.10 2.23 2.20 2.26 2.26 2.29 2.08 2.30 2.30 2.30 2.36 2.11 2.19 |
| 26 27 28 5. No. 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 | SiA SiA | 3971 3038 Pro (g/ 1) 14 14 14 14 14 14 14 14 14 15 14 17 13 16 14 15 14 15 14 15 14 15 14 15 14 15 14 15 14 15 11 | 16.19 13.56 otein C 100g) 1 .88 .88 .00 .00 .00 .13 .19 .00 .31 .44 .25 .88 .75 | 53.61 66.25 arbo hydrate (g/ 100g) 2 66.99 59.55 61.94 72.83 55.57 54.14 57.36 65.82 51.34 64.86 57.36 51.20 75.67 56.26 52.03 57.51 63.39 57.96 51.20 | 2 Calciur (mg/ 100 3 20.00 24.00 20.00 24.00 20.00 24.00 20.00 24.00 20.00 24.00 | 24.00 0.00 n M 0g) (r | 19.20 4.80 (agnesium ng/ 100g) 4 21.60 14.40 16.80 14.40 21.60 14.40 9.60 9.60 9.60 7.20 12.00 7.20 31.20 14.40 16.80 9.60 21.00 | 13.38 9.21 Iron (mg/ 100g) 5 8.54 14.74 9.61 7.85 8.18 23.60 5.74 7.19 6.59 10.05 6.52 5.99 7.88 6.19 11.03 10.47 8.28 | 3.81 3.03 Zinc (mg/ 100g) 6 3.54 3.14 3.47 3.00 3.53 3.35 2.39 2.65 2.40 2.53 2.31 2.32 2.47 2.40 2.55 3.12 | 1.01 2.40 Copper (mg/ 100g) 7 1.67 0.90 1.30 1.05 0.91 0.90 1.63 0.91 0.89 2.70 0.91 2.72 0.90 0.89 2.73 0.90 2.75 | 2.16 Manganese (mg/ 100g) 8 2.31 2.04 2.32 1.91 2.22 2.05 2.10 2.23 2.20 2.26 2.26 2.29 2.08 2.30 2.30 2.36 2.16 2.11 2.19 2.70 |
| 26 27 28 5. No. 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 | SiA SiA | 3971 3038 Pro (g/ 1) 14 14 14 14 14 14 14 14 14 15 14 15 14 17 13 16 14 15 14 15 14 15 14 15 14 15 14 15 14 15 14 15 14 15 11 13 | 16.19 13.56 otein C 100g) 1 .88 .88 .00 .00 .13 .19 .06 .31 .44 .25 .88 .75 .88 .13 .14 .25 .88 .75 .88 .75 .81 | 53.61 66.25 arbo hydrate (g/ 100g) 2 66.99 59.55 61.94 72.83 55.57 54.14 57.36 65.82 51.34 64.86 57.36 51.20 75.67 56.26 52.03 57.51 63.39 57.96 | 2 Calciur (mg/ 100 3 20.00 24.00 20.00 24.00 20.00 24.00 20.00 24.00 20.00 24.00 20.00 | 24.00 0.00 n M 0g) (r | 19.20 4.80 /agnesium ng/ 100g) 4 21.60 14.40 16.80 14.40 21.60 14.40 9.60 9.60 9.60 7.20 12.00 7.20 31.20 14.40 16.80 9.60 | 13.38 9.21 Iron (mg/ 100g) 5 8.54 14.74 9.61 7.85 8.18 23.60 5.74 7.19 6.59 10.05 6.52 5.99 7.88 6.19 11.03 10.47 8.28 6.33 | 3.81 3.03 Zinc (mg/ 100g) 6 3.54 3.14 3.47 3.00 3.53 3.35 2.39 2.65 2.40 2.53 2.32 2.47 2.40 2.55 3.12 2.72 | 1.01 2.40 Copper (mg/ 100g) 7 1.67 0.90 1.30 1.05 0.91 0.90 1.63 0.91 0.89 2.70 0.91 2.72 0.90 0.89 2.73 0.90 2.75 2.73 | 2.16 Manganese (mg/ 100g) 8 2.31 2.04 2.32 1.91 2.22 2.05 2.10 2.23 2.20 2.26 2.26 2.29 2.08 2.30 2.30 2.30 2.36 2.11 2.19 |
| 26 27 28 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 | SiA SiA | 3971 3038 Pro (g/ 1) 14 14 14 14 14 14 14 14 14 14 14 15 14 15 14 15 14 15 14 15 14 15 14 15 14 15 14 15 14 15 14 15 14 15 14 15 11 13 16 | 16.19 13.56 otein C 100g) 1 .88 .88 .00 .00 .25 .88 .00 .13 .19 .00 .31 .44 .25 .88 .75 .88 .56 | 53.61 66.25 arbo hydrate (g/ 100g) 2 66.99 59.55 61.94 72.83 55.57 54.14 57.36 65.82 51.34 64.86 57.36 51.20 75.67 56.26 52.03 57.51 63.39 57.96 51.20 | 2 Calciur (mg/ 100 3 20.00 24.00 20.00 24.00 20.00 24.00 20.00 24.00 20.00 24.00 | 24.00 10.00 m M 0g) (r | 19.20 4.80 (agnesium ng/ 100g) 4 21.60 14.40 16.80 14.40 21.60 14.40 9.60 9.60 9.60 7.20 12.00 7.20 31.20 14.40 16.80 9.60 21.00 | 13.38 9.21 Iron (mg/ 100g) 5 8.54 14.74 9.61 7.85 8.18 23.60 5.74 7.19 6.59 10.05 6.52 5.99 7.88 6.19 11.03 10.47 8.28 6.33 23.36 | 3.81 3.03 Zinc (mg/ 100g) 6 3.54 3.14 3.47 3.00 3.53 3.35 2.39 2.65 2.40 2.53 2.31 2.32 2.47 2.40 2.55 3.12 2.72 2.68 | 1.01 2.40 Copper (mg/ 100g) 7 1.67 0.90 1.30 1.05 0.91 0.90 1.63 0.91 0.89 2.70 0.91 2.72 0.90 0.89 2.73 0.90 2.75 2.73 0.89 | 2.16 Manganese (mg/ 100g) 8 2.31 2.04 2.32 1.91 2.22 2.05 2.10 2.23 2.20 2.26 2.26 2.29 2.08 2.30 2.30 2.36 2.16 2.11 2.19 2.70 |
| 26 27 28 S. No. 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 | SiA SiA | 3971 3038 Pro (g/ 1) 14 14 14 14 14 14 14 14 14 14 14 14 15 14 15 14 15 14 15 14 15 14 15 14 15 14 15 14 15 14 15 14 15 14 15 11 13 16 11 13 16 11 | 16.19 13.56 otein C 100g) 1 .88 .88 .00 .00 .00 .00 .00 .13 .19 .00 .31 .44 .25 .88 .75 .88 .75 .81 .56 .19 | 53.61 66.25 arbo hydrate (g/ 100g) 2 66.99 59.55 61.94 72.83 55.57 54.14 57.36 51.20 75.67 56.26 52.03 57.51 63.39 57.96 51.20 52.97 | 2 4 Calciur (mg/ 100 3 20.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 20.00 24.00 20.00 24.00 20.00 24.00 20.00 24.00 20.00 | 24.00 0.00 n M 0g) (r | 19.20 4.80 (agnesium ng/ 100g) 4 21.60 14.40 16.80 14.40 21.60 14.40 9.60 9.60 9.60 7.20 12.00 7.20 31.20 14.40 16.80 9.60 7.20 31.20 14.40 16.80 9.60 21.60 | 13.38 9.21 Iron (mg/ 100g) 5 8.54 14.74 9.61 7.85 8.18 23.60 5.74 7.19 6.59 10.05 6.52 5.99 7.88 6.19 11.03 10.47 8.28 6.33 23.36 8.68 | 3.81 3.03 Zinc (mg/ 100g) 6 3.54 3.14 3.47 3.00 3.53 3.35 2.39 2.65 2.40 2.53 2.31 2.39 2.47 2.40 2.55 3.12 2.72 2.68 2.68 | 1.01 2.40 Copper (mg/ 100g) 7 1.67 0.90 1.30 1.05 0.91 0.90 1.63 0.91 0.89 2.70 0.91 2.72 0.90 0.89 2.73 0.90 2.75 2.73 0.89 2.73 0.89 2.73 | 2.16 Manganese (mg/ 100g) 8 2.31 2.04 2.32 1.91 2.22 2.05 2.10 2.23 2.20 2.26 2.26 2.29 2.08 2.30 2.36 2.16 2.11 2.19 2.70 2.19 |
| 26 27 28 S. No. 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 | SiA SiA | 3971 3038 Pro (g/ 1) 14 14 14 14 14 14 14 14 14 14 14 14 15 14 15 14 15 14 15 14 15 14 15 14 15 14 15 14 15 14 15 14 15 14 15 11 13 16 11 12 12 | 16.19 13.56 tein C 100g) 1 .88 .88 .00 .00 .25 .88 .00 .13 .19 .00 .31 .44 .25 .88 .75 .81 .56 .81 | 53.61 66.25 arbo hydrate (g/ 100g) 2 66.99 59.55 61.94 72.83 55.57 54.14 57.36 65.82 51.34 64.86 57.36 51.20 75.67 56.26 52.03 57.51 63.39 57.96 51.20 52.97 68.19 | 2 4 Calciur (mg/ 100 3 20.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 20.00 24.00 20.00 24.00 20.00 20.00 20.00 20.00 | 24.00 0.00 n M 0g) (r | 19.20 4.80 (agnesium ng/ 100g) 4 21.60 14.40 16.80 14.40 21.60 14.40 9.60 9.60 9.60 9.60 7.20 12.00 7.20 31.20 14.40 16.80 9.60 21.60 12.00 14.40 | 13.38 9.21 Iron (mg/ 100g) 5 8.54 14.74 9.61 7.85 8.18 23.60 5.74 7.19 6.59 10.05 6.52 5.99 7.88 6.19 11.03 10.47 8.28 6.33 23.36 8.68 7.70 | 3.81 3.03 Zinc (mg/ 100g) 6 3.54 3.14 3.47 3.00 3.53 3.35 2.39 2.65 2.40 2.53 2.31 2.39 2.47 2.40 2.55 3.12 2.72 2.68 2.57 | 1.01 2.40 Copper (mg/ 100g) 7 1.67 0.90 1.30 1.05 0.91 0.92 0.91 0.91 0.92 0.91 0.72 0.91 2.70 0.91 2.72 0.90 2.73 0.90 2.73 0.89 2.73 0.89 2.73 0.89 2.73 0.89 2.73 0.89 2.73 0.89 2.73 0.91 | 2.16 Manganese (mg/ 100g) 8 2.31 2.04 2.32 1.91 2.22 2.05 2.10 2.23 2.20 2.26 2.26 2.26 2.29 2.08 2.30 2.30 2.36 2.16 2.11 2.19 2.70 2.19 2.19 |
| 26 27 28 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 | SiA SiA | 3971 3038 Pro (g/ 1) 14 14 14 14 14 14 14 14 14 14 14 14 15 14 17 13 16 14 15 14 15 14 15 14 15 14 15 14 15 14 15 14 15 11 13 16 11 13 16 11 12 14 15 11 13 16 11 12 <tr< td=""><td>16.19 13.56 otein C 100g) 1 .88 .88 .00 .00 .25 .88 .00 .13 .19 .00 .31 .44 .25 .88 .75 .81 .69 </td><td>53.61 66.25 arbo hydrate (g/ 100g) 2 66.99 59.55 61.94 72.83 55.57 54.14 57.36 65.82 51.34 64.86 57.36 51.20 75.67 56.26 52.03 57.51 63.39 57.96 51.20 52.97 68.19 76.38</td><td>2 4 Calciur (mg/ 100 3 20.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00</td><td>24.00 0.00 n M 0g) (r </td><td>19.20 4.80 (agnesium ng/ 100g) 4 21.60 14.40 16.80 14.40 21.60 14.40 9.60 9.60 9.60 9.60 7.20 12.00 7.20 31.20 14.40 16.80 9.60 21.60 12.00 14.40 16.80 9.60 21.60 12.00 14.40</td><td>13.38 9.21 Iron (mg/ 100g) 5 8.54 14.74 9.61 7.85 8.18 23.60 5.74 7.19 6.59 10.05 6.52 5.99 7.88 6.19 11.03 10.47 8.28 6.33 23.36 8.68 7.70 9.54</td><td>3.81 3.03 Zinc (mg/ 100g) 6 3.54 3.14 3.47 3.00 3.53 3.35 2.39 2.65 2.40 2.53 2.31 2.39 2.47 2.40 2.55 3.12 2.72 2.68 2.57 2.53</td><td>1.01 2.40 Copper (mg/ 100g) 7 1.67 0.90 1.30 1.05 0.91 0.90 1.63 0.91 0.89 2.70 0.91 2.72 0.90 2.73 0.90 2.75 2.73 0.89 2.73 0.89 2.73 0.91 2.73 0.89 2.73 0.89 2.73</td><td>2.16 Manganese (mg/ 100g) 8 2.31 2.04 2.32 1.91 2.22 2.05 2.10 2.23 2.20 2.26 2.26 2.26 2.26 2.26 2.29 2.08 2.30 2.30 2.36 2.11 2.19 2.70 2.19 2.19 2.14</td></tr<> | 16.19 13.56 otein C 100g) 1 .88 .88 .00 .00 .25 .88 .00 .13 .19 .00 .31 .44 .25 .88 .75 .81 .69 | 53.61 66.25 arbo hydrate (g/ 100g) 2 66.99 59.55 61.94 72.83 55.57 54.14 57.36 65.82 51.34 64.86 57.36 51.20 75.67 56.26 52.03 57.51 63.39 57.96 51.20 52.97 68.19 76.38 | 2 4 Calciur (mg/ 100 3 20.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 20.00 20.00 20.00 20.00 20.00 20.00 20.00 | 24.00 0.00 n M 0g) (r | 19.20 4.80 (agnesium ng/ 100g) 4 21.60 14.40 16.80 14.40 21.60 14.40 9.60 9.60 9.60 9.60 7.20 12.00 7.20 31.20 14.40 16.80 9.60 21.60 12.00 14.40 16.80 9.60 21.60 12.00 14.40 | 13.38 9.21 Iron (mg/ 100g) 5 8.54 14.74 9.61 7.85 8.18 23.60 5.74 7.19 6.59 10.05 6.52 5.99 7.88 6.19 11.03 10.47 8.28 6.33 23.36 8.68 7.70 9.54 | 3.81 3.03 Zinc (mg/ 100g) 6 3.54 3.14 3.47 3.00 3.53 3.35 2.39 2.65 2.40 2.53 2.31 2.39 2.47 2.40 2.55 3.12 2.72 2.68 2.57 2.53 | 1.01 2.40 Copper (mg/ 100g) 7 1.67 0.90 1.30 1.05 0.91 0.90 1.63 0.91 0.89 2.70 0.91 2.72 0.90 2.73 0.90 2.75 2.73 0.89 2.73 0.89 2.73 0.91 2.73 0.89 2.73 0.89 2.73 | 2.16 Manganese (mg/ 100g) 8 2.31 2.04 2.32 1.91 2.22 2.05 2.10 2.23 2.20 2.26 2.26 2.26 2.26 2.26 2.29 2.08 2.30 2.30 2.36 2.11 2.19 2.70 2.19 2.19 2.14 |
| 26 27 28 S. No. 29 30 31 32 33 34 35 36 37 38 39 40 41 41 42 43 44 45 46 47 48 49 50 51 | SiA SiA | 3971 3038 Pro (g/ 1) 14 14 14 14 14 14 14 14 14 14 14 15 14 17 13 16 14 15 14 15 14 15 14 15 14 15 14 15 14 15 11 13 16 11 13 16 11 12 14 14 | 16.19 13.56 tein C 100g) 1 .88 .88 .00 .00 .25 .88 .00 .13 .19 .00 .31 .44 .25 .88 .75 .81 .69 .00 | 53.61 66.25 arbo hydrate (g/ 100g) 2 66.99 59.55 61.94 72.83 55.57 54.14 57.36 65.82 51.34 64.86 57.36 51.20 75.67 56.26 52.03 57.51 63.39 57.96 51.20 52.97 68.19 76.38 55.26 | 2 Calciur (mg/ 100 3 20.00 24.00 20.00 24.00 20.00 | 24.00 0.00 n M 0g) (r | 19.20 4.80 (agnesium ng/ 100g) 4 21.60 14.40 16.80 14.40 21.60 14.40 21.60 14.40 9.60 9.60 9.60 7.20 31.20 14.40 16.80 9.60 21.60 12.00 7.20 31.20 14.40 16.80 9.60 21.60 12.00 14.40 12.00 | 13.38 9.21 Iron (mg/ 100g) 5 8.54 14.74 9.61 7.85 8.18 23.60 5.74 7.19 6.59 10.05 6.52 5.99 7.88 6.19 11.03 10.47 8.28 6.33 23.36 8.68 7.70 9.54 9.40 | 3.81 3.03 Zinc (mg/ 100g) 6 3.54 3.14 3.47 3.00 3.53 3.35 2.39 2.65 2.40 2.53 2.31 2.39 2.47 2.40 2.55 3.12 2.72 2.68 2.57 2.53 2.61 | 1.01 2.40 Copper (mg/ 100g) 7 1.67 0.90 1.30 1.05 0.91 0.90 1.63 0.91 0.89 2.70 0.91 2.72 0.90 2.73 0.90 2.73 0.89 2.73 0.91 2.73 0.91 2.74 | 2.16 Manganese (mg/ 100g) 8 2.31 2.04 2.32 1.91 2.22 2.05 2.10 2.23 2.20 2.26 2.26 2.26 2.26 2.26 2.29 2.08 2.30 2.30 2.36 2.11 2.19 2.70 2.19 2.19 2.14 1.99 |
| 26 27 28 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 | SiA SiA | 3971 3038 Pro (g/ 1) 14 14 14 14 14 14 14 14 14 14 14 14 14 15 14 17 13 16 14 15 14 15 14 15 14 15 14 15 14 15 11 13 16 11 12 14 13 | 16.19 13.56 tein C 100g) 1 .88 .88 .00 .00 .00 .00 .00 .13 .19 .00 .31 .44 .25 .81 .56 .19 .81 .69 .00 | 53.61 66.25 arbo hydrate (g/ 100g) 2 66.99 59.55 61.94 72.83 55.57 54.14 57.36 65.82 51.34 64.86 57.36 51.20 75.67 56.26 52.03 57.51 63.39 57.96 51.20 52.97 68.19 76.38 55.26 55.65 | 2 Calciur (mg/ 100 3 20.00 24.00 20.00 | 24.00 0.00 n M 0g) (r | 19.20 4.80 (agnesium ng/ 100g) 4 21.60 14.40 16.80 14.40 21.60 14.40 21.60 14.40 9.60 9.60 9.60 7.20 31.20 14.40 16.80 9.60 21.60 12.00 7.20 31.20 14.40 16.80 9.60 21.60 12.00 14.40 12.00 9.60 21.60 12.00 14.40 12.00 9.60 21.60 12.00 9.60 | 13.38 9.21 Iron (mg/ 100g) 5 8.54 14.74 9.61 7.85 8.18 23.60 5.74 7.19 6.59 10.05 6.52 5.99 7.88 6.19 11.03 10.47 8.28 6.33 23.36 8.68 7.70 9.54 9.40 32.50 | 3.81 3.03 Zinc (mg/ 100g) 6 3.54 3.14 3.47 3.00 3.53 3.35 2.39 2.65 2.40 2.53 2.31 2.39 2.47 2.40 2.55 3.12 2.72 2.68 2.57 2.53 2.61 2.24 | 1.01 2.40 Copper (mg/ 100g) 7 1.67 0.90 1.30 1.05 0.91 0.92 0.93 2.70 0.91 0.72 0.91 2.72 0.90 2.73 0.89 2.73 0.89 2.73 0.91 2.73 0.91 2.74 2.74 2.74 | 2.16 Manganese (mg/ 100g) 8 2.31 2.04 2.32 1.91 2.22 2.05 2.10 2.23 2.20 2.26 2.26 2.26 2.26 2.26 2.29 2.08 2.30 2.30 2.36 2.11 2.19 2.70 2.19 2.19 2.19 2.14 1.99 2.47 |
| 26 27 28 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 | SiA SiA | 3971 3038 Pro (g/ 1) 14 14 14 14 14 14 14 14 14 14 14 14 15 14 17 13 16 14 15 14 15 14 15 14 15 14 15 14 15 11 13 16 11 13 16 11 12 14 13 16 11 12 14 13 14 | 16.19 13.56 tein C 100g) C 1 | 53.61 66.25 arbo hydrate (g/ 100g) 2 66.99 59.55 61.94 72.83 55.57 54.14 57.36 65.82 51.34 64.86 57.36 51.20 75.67 56.26 52.03 57.51 63.39 57.96 51.20 52.97 68.19 76.38 55.26 59.45 | 2 Calciur (mg/ 100 3 20.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 20.00 | 24.00 0.00 n M 0g) (r | 19.20 4.80 (agnesium ng/ 100g) 4 21.60 14.40 16.80 14.40 21.60 14.40 21.60 14.40 9.60 9.60 9.60 7.20 31.20 14.40 16.80 9.60 21.60 12.00 7.20 31.20 14.40 16.80 9.60 21.60 12.00 14.40 12.00 14.40 12.00 14.40 12.00 14.40 12.00 14.40 12.00 14.40 12.00 9.60 21.60 | 13.38 9.21 Iron (mg/ 100g) 5 8.54 14.74 9.61 7.85 8.18 23.60 5.74 7.19 6.59 10.05 6.52 5.99 7.88 6.19 11.03 10.47 8.28 6.33 23.36 8.68 7.70 9.54 9.40 32.50 18.40 | 3.81 3.03 Zinc (mg/ 100g) 6 3.54 3.14 3.47 3.00 3.53 3.35 2.39 2.65 2.40 2.53 2.31 2.39 2.47 2.40 2.55 3.12 2.72 2.68 2.57 2.53 2.61 2.24 3.94 | 1.01 2.40 Copper (mg/ 100g) 7 1.67 0.90 1.30 1.05 0.91 0.92 0.91 0.89 2.70 0.91 2.72 0.90 2.73 0.90 2.75 2.73 0.89 2.73 0.91 2.74 2.74 2.74 0.89 | 2.16 Manganese (mg/ 100g) 8 2.31 2.04 2.32 1.91 2.22 2.05 2.10 2.23 2.20 2.26 2.26 2.26 2.26 2.26 2.29 2.08 2.30 2.30 2.30 2.36 2.11 2.19 2.70 2.19 2.19 2.19 2.14 1.99 2.47 2.40 |

| S. No. | Genotype | Protein (g/ 100g) | Ca | arbo hydrate (g/ 100g) | Calcium (mg/ 100g) | Magnesium (mg/ 100g) | Iron (mg/ 100g) | Zinc (mg/ 100g) | Copper (mg/ 100g) | Manganese (mg/ 100g) |
|--|---|---|--|---|---|--|--|---|--|--|
| | • • | 1 | | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 57 | SiA 4009 | 14.44 | | 67.82 | 20.00 | 16.80 | 6.83 | 3.00 | 0.87 | 1.78 |
| 58 | SiA 3965 | 13.56 | | 61.39 | 28.00 | 19.20 | 5.40 | 3.81 | 0.89 | 2.64 |
| 59 | SiA 3972 | 15.75 | | 61.21 | 32.00 | 14.40 | 5.41 | 4.03 | 0.91 | 2.55 |
| 60 | SiA 3756 | 14.00 | | 50.07 | 24.00 | 14.40 | 12.44 | 2.50 | 0.88 | 2.35 |
| 61 | SiA 4013 | 16.19 | | 64.62 | 24.00 | 26.40 | 24.00 | 4.26 | 0.90 | 2.44 |
| 62 | SiA 3754 | 17.94 | | 53.97 | 36.00 | 14.40 | 7.48 | 3.80 | 0.88 | 2.34 |
| 63 | SiA 3413 | 14.00 | | 55.10 | 24.00 | 21.60 | 10.36 | 3.75 | 0.88 | 2.18 |
| 64 | SiA 3435 | 14.00 | | 56.59 | 24.00 | 21.60 | 8.31 | 3.81 | 0.88 | 2.40 |
| 65 | SiA 4045 | 15.75 | | 51.66 | 20.00 | 12.00 | 8.43 | 2.44 | 0.89 | 2.48 |
| 66 | SiA 3499 | 15.31 | | 56.28 | 20.00 | 12.00 | 7.61 | 2.56 | 0.88 | 2.05 |
| 67 | SiA 3436 | 14.88 | | 73.34 | 28.00 | 14.40 | 8.17 | 2.75 | 0.88 | 2.31 |
| 68 | SiA 3560 | 16.19 | | 69.46 | 24.00 | 26.40 | 7.40 | 4.21 | 0.90 | 2.44 |
| 69 | SiA 4114 | 15.31 | | 75.20 | 24.00 | 9.60 | 6.14 | 2.80 | 0.87 | 2.26 |
| 70 | SiA 3419 | 14.44 | | 50.05 | 16.00 | 9.60 | 5.90 | 2.59 | 0.87 | 2.09 |
| 70 | SiA 3465 | 13.13 | | 74.10 | 20.00 | 12.00 | 5.97 | 2.37 | 0.87 | 2.09 |
| 72 | SiA 4068 | 15.31 | 1 | 67.27 | 20.00 | 12.00 | 6.06 | 2.17 | 0.87 | 2.19 |
| 73 | SiA 3749 | 15.75 | | 71.38 | 32.00 | 4.80 | 6.12 | 2.62 | 0.87 | 2.09 |
| 73 | SiA 3749 SiA 4141 | 15.75 | | 63.58 | 28.00 | 9.60 | 5.63 | 2.02 | 0.88 | 2.09 |
| 75 | SiA 2667 | 13.13 | | 70.50 | 32.00 | 9.60 | 5.10 | 2.38 | 0.87 | 1.79 |
| 76 | SiA 3422 | 15.31 | | 57.12 | 28.00 | 7.20 | 5.61 | 3.06 | 0.87 | 2.03 |
| 70 | SiA 3422 SiA 3894 | 13.31 | | 51.56 | 20.00 | 14.40 | 7.29 | 2.76 | 0.88 | |
| 78 | SiA 3894 SiA 3282 | 11.38 | | 72.13 | 20.00 | 12.00 | 6.41 | 2.76 | 0.87 | 1.66 1.77 |
| | | | | | | 12.00 | | | | |
| 79 | SiA 3639 | 10.94 | - | 68.36 | 20.00 | | 11.27 | 1.76 | 0.86 | 1.84 |
| 80 81 | SiA 2856 | 14.44 16.19 | - | 62.33 | 20.00 | 16.80 | 5.76 | 2.62 | 0.87 | 1.92 2.23 |
| | SiA 3291 | | - | 53.05 | 20.00 | 9.60 | 6.81 | 2.58 | 0.88 | |
| 82 | SiA 3430 | 12.69 | - | 61.08 | 24.00 | 7.20 | 4.42 | 2.68 | 0.86 | 2.02 |
| 83 | SiA 4020 | 10.94 | - | 75.04 | 24.00 | 12.00 | | 2.76 | 0.87 | 2.15 |
| 84 | SiA 2663 | 10.94 | | 73.40 | 24.00 | 14.40 | 6.17 | 1.53 | 0.87 | 2.13 |
| | | Pro | tein | Carbo hydrate | Calciun | n Magnesium | Iron | Zinc | Copper | Manganese |
| S. No. | Genotyp | e (g/ 1 | 00g) | (g/ 100g) | (mg/ 100 | g) (mg/ 100g) | (mg/ 100g |) (mg/ 100g) | | (mg/100g) |
| | | 1 | | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 85 | SiA 3554 | 4 15 | 31 | 66.88 | 28.00 | 14.40 | 11.90 | 7.07 | 1.12 | 2.94 |
| 86 | SiA 3753 | 3 14 | 88 | 67.35 | 20.00 | 12.00 | 12.08 | 7.05 | 1.19 | 3.30 |
| 87 | SiA 2844 | 4 12 | 69 | 53.81 | 24.00 | 14.40 | 9.69 | 6.42 | 1.04 | 2.93 |
| 88 | SiA 4180 |) 18 | 38 | 68.87 | 20.00 | 12.00 | 11.67 | 4.22 | 0.91 | 3.40 |
| 89 | SiA 4005 | 5 15 | 75 | 52.97 | 20.00 | 28.80 | 8.73 | 5.26 | 0.89 | 2.79 |
| 90 | | | | | | | | | | |
| / ~ | SiA 2850 |) 14 | 88 | 74.53 | 24.00 | 26.40 | 6.19 | 5.84 | 0.88 | 2.65 |
| 91 | SiA 2850 SiA 3513 | | .88 .56 | 74.53 68.42 | | 26.40 14.40 | | 5.84 5.74 | 0.88 | 2.65 3.07 |
| | | 3 13 | | | 24.00 | | 6.19 | | | |
| 91 | SiA 3513 SiA 3469 | 3 13 9 13 | 56 56 | 68.42 | 24.00 20.00 | 14.40 | 6.19 7.86 | 5.74 | 0.90 | 3.07 |
| 91 92 | SiA 3513 | 3 13 9 13 1 14 | 56 56 | 68.42 62.04 | 24.00 20.00 28.00 | 14.40 24.00 | 6.19 7.86 11.22 | 5.74 5.22 | 0.90 0.90 | 3.07 3.11 |
| 91 92 93 | SiA 3513 SiA 3469 SiA 3283 SiA 1260 | 3 13 9 13 1 14 5 13 | 56 56 44 56 | 68.42 62.04 67.42 73.40 | 24.00 20.00 28.00 20.00 | 14.40 24.00 14.40 24.00 | 6.19 7.86 11.22 10.35 8.53 | 5.74 5.22 6.64 6.14 | 0.90 0.90 0.90 | 3.07 3.11 3.52 3.16 |
| 91 92 93 94 | SiA 3513 SiA 3469 SiA 328 SiA 1260 SiA 4182 | 3 13 9 13 1 14 5 13 2 10 | 56 56 44 56 50 | 68.42 62.04 67.42 73.40 72.99 | 24.00 20.00 28.00 20.00 36.00 20.00 | 14.40 24.00 14.40 24.00 12.00 | 6.19 7.86 11.22 10.35 8.53 10.55 | 5.74 5.22 6.64 6.14 6.27 | 0.90 0.90 0.90 0.90 0.90 0.89 | 3.07 3.11 3.52 3.16 3.46 |
| 91 92 93 94 95 | SiA 3513 SiA 3469 SiA 328 SiA 1260 SiA 4182 SiA 3969 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 56 56 44 56 50 | 68.42 62.04 67.42 73.40 72.99 67.17 | 24.00 20.00 28.00 20.00 36.00 20.00 24.00 | 14.40 24.00 14.40 24.00 12.00 | 6.19 7.86 11.22 10.35 8.53 10.55 12.84 | 5.74 5.22 6.64 6.14 6.27 6.21 | 0.90 0.90 0.90 0.90 0.89 0.89 | 3.07 3.11 3.52 3.16 3.46 3.68 |
| 91 92 93 94 95 96 97 | SiA 3513 SiA 3469 SiA 328 SiA 1260 SiA 4182 SiA 3969 Prasad (C | 3 13 9 13 1 14 5 13 2 10 9 11 2) 15 | 56 56 44 56 50 38 29 | 68.42 62.04 67.42 73.40 72.99 67.17 62.52 | 24.00 20.00 28.00 20.00 36.00 20.00 | 14.40 24.00 14.40 24.00 12.00 12.02 | 6.19 7.86 11.22 10.35 8.53 10.55 12.84 11.95 | 5.74 5.22 6.64 6.14 6.27 6.21 2.81 | 0.90 0.90 0.90 0.89 0.89 1.86 | 3.07 3.11 3.52 3.16 3.46 3.68 2.35 |
| 91 92 93 94 95 96 97 98 | SiA 3513 SiA 3469 SiA 328 SiA 1260 SiA 4182 SiA 3969 Prasad (C SiA 3085 (| 3 13 9 13 1 14 6 13 2 10 9 11 2> 15 C) 14 | 56 56 44 56 50 38 29 14 | 68.42 62.04 67.42 73.40 72.99 67.17 62.52 63.34 | 24.00 20.00 28.00 20.00 36.00 20.00 24.00 23.88 20.64 | 14.40 24.00 14.40 24.00 12.00 12.00 12.02 16.79 | 6.19 7.86 11.22 10.35 8.53 10.55 12.84 11.95 21.64 | 5.74 5.22 6.64 6.14 6.27 6.21 2.81 3.11 | 0.90 0.90 0.90 0.89 0.89 1.86 1.14 | 3.07 3.11 3.52 3.16 3.46 3.68 2.35 2.41 |
| 91 92 93 94 95 96 97 98 99 | SiA 3513 SiA 3469 SiA 328 SiA 1260 SiA 4182 SiA 3969 Prasad (C SiA 3085 (SiA 3156 (| 3 13 9 13 1 14 5 13 2 10 9 11 10 15 C) 14 | 56 56 44 56 50 38 29 14 32 | 68.42 62.04 67.42 73.40 72.99 67.17 62.52 63.34 61.46 | 24.00 20.00 28.00 20.00 36.00 20.00 24.00 23.88 20.64 23.63 | 14.40 24.00 14.40 24.00 12.00 12.00 12.02 16.79 14.37 | 6.19 7.86 11.22 10.35 8.53 10.55 12.84 11.95 21.64 9.54 | 5.74 5.22 6.64 6.14 6.27 6.21 2.81 3.11 2.82 | $\begin{array}{c} 0.90 \\ 0.90 \\ 0.90 \\ 0.90 \\ 0.89 \\ 0.89 \\ 1.86 \\ 1.14 \\ 1.26 \end{array}$ | 3.07 3.11 3.52 3.16 3.46 3.68 2.35 2.41 1.78 |
| 91 92 93 94 95 96 97 98 | SiA 3513 SiA 3469 SiA 328 SiA 1266 SiA 4182 SiA 3969 Prasad (C SiA 3085 (SiA 3156 (Suryanandi | 3 13 9 13 1 14 5 13 2 10 9 11 2) 15 C) 14 C) 13 (C) 14 (C) 14 | 56 56 44 56 50 38 29 14 32 02 | 68.42 62.04 67.42 73.40 72.99 67.17 62.52 63.34 61.46 62.40 | 24.00 20.00 28.00 20.00 36.00 20.00 24.00 23.88 20.64 23.63 35.35 | 14.40 24.00 14.40 24.00 12.00 12.00 12.02 16.79 14.37 12.54 | 6.19 7.86 11.22 10.35 8.53 10.55 12.84 11.95 21.64 9.54 18.37 | 5.74 5.22 6.64 6.14 6.27 6.21 2.81 3.11 2.82 3.45 | $\begin{array}{c} 0.90 \\ 0.90 \\ 0.90 \\ 0.90 \\ 0.89 \\ 0.89 \\ 1.86 \\ 1.14 \\ 1.26 \\ 0.97 \\ \end{array}$ | 3.07 3.11 3.52 3.16 3.46 3.68 2.35 2.41 1.78 2.44 |
| 91 92 93 94 95 96 97 98 99 | SiA 3513 SiA 3469 SiA 328 SiA 1260 SiA 4182 SiA 3969 Prasad (C SiA 3085 (SiA 3156 (Suryanandi Minimm | 3 13 9 13 1 14 5 13 2 10 9 11 2) 15 C) 14 C) 13 (C) 13 (C) 14 10 10 | 56 56 44 56 50 38 29 14 32 02 50 | $\begin{array}{r} 68.42 \\ 62.04 \\ 67.42 \\ 73.40 \\ 72.99 \\ 67.17 \\ 62.52 \\ 63.34 \\ 61.46 \\ 62.40 \\ 50.05 \end{array}$ | 24.00 20.00 28.00 20.00 36.00 20.00 24.00 23.88 20.64 23.63 35.35 16.00 | 14.40 24.00 14.40 24.00 12.00 12.00 12.02 16.79 14.37 12.54 4.80 | 6.19 7.86 11.22 10.35 8.53 10.55 12.84 11.95 21.64 9.54 18.37 4.42 | $\begin{array}{r} 5.74\\ 5.22\\ 6.64\\ 6.14\\ 6.27\\ 6.21\\ 2.81\\ 3.11\\ 2.82\\ 3.45\\ 1.53\\ \end{array}$ | $\begin{array}{c} 0.90\\ 0.90\\ 0.90\\ 0.90\\ 0.89\\ 0.89\\ 1.86\\ 1.14\\ 1.26\\ 0.97\\ 0.86\\ \end{array}$ | 3.07 3.11 3.52 3.16 3.46 3.68 2.35 2.41 1.78 2.44 1.31 |
| 91 92 93 94 95 96 97 98 99 | SiA 3513 SiA 3469 SiA 328 SiA 1266 SiA 4182 SiA 3969 Prasad (C SiA 3085 (SiA 3156 (Suryanandi Minimm Maximur | 3 13 9 13 1 14 5 13 2 10 9 11 2) 15 C) 14 C) 13 (C) 13 (C) 14 10 14 10 18 | 56 56 44 56 50 38 29 14 32 02 50 38 | $\begin{array}{r} 68.42 \\ 62.04 \\ 67.42 \\ 73.40 \\ 72.99 \\ 67.17 \\ 62.52 \\ 63.34 \\ 61.46 \\ 62.40 \\ 50.05 \\ 76.42 \end{array}$ | 24.00 20.00 28.00 20.00 36.00 20.00 24.00 23.88 20.64 23.63 35.35 16.00 40.00 | 14.40 24.00 14.40 24.00 12.00 12.00 12.02 16.79 14.37 12.54 4.80 31.20 | 6.19 7.86 11.22 10.35 8.53 10.55 12.84 11.95 21.64 9.54 18.37 4.42 32.50 | $\begin{array}{r} 5.74\\ 5.22\\ 6.64\\ 6.14\\ 6.27\\ 6.21\\ 2.81\\ 3.11\\ 2.82\\ 3.45\\ 1.53\\ 7.07\\ \end{array}$ | $\begin{array}{c} 0.90\\ 0.90\\ 0.90\\ 0.90\\ 0.89\\ 0.89\\ 1.86\\ 1.14\\ 1.26\\ 0.97\\ 0.86\\ 2.76\\ \end{array}$ | $\begin{array}{r} 3.07 \\ \hline 3.11 \\ \hline 3.52 \\ \hline 3.16 \\ \hline 3.46 \\ \hline 3.68 \\ \hline 2.35 \\ \hline 2.41 \\ \hline 1.78 \\ \hline 2.44 \\ \hline 1.31 \\ \hline 4.12 \end{array}$ |
| 91 92 93 94 95 96 97 98 99 | SiA 3513 SiA 3469 SiA 328 SiA 1260 SiA 4182 SiA 3969 Prasad (C SiA 3085 (SiA 3156 (Suryanandi Minimm | 3 13 9 13 1 14 5 13 2 10 9 11 2) 15 C) 14 C) 14 C) 14 C) 14 n 18 14 14 | 56 56 44 56 50 38 29 14 32 02 50 38 10 | $\begin{array}{r} 68.42 \\ 62.04 \\ 67.42 \\ 73.40 \\ 72.99 \\ 67.17 \\ 62.52 \\ 63.34 \\ 61.46 \\ 62.40 \\ 50.05 \end{array}$ | 24.00 20.00 28.00 20.00 36.00 20.00 24.00 23.88 20.64 23.63 35.35 16.00 | 14.40 24.00 14.40 24.00 12.00 12.00 12.02 16.79 14.37 12.54 4.80 | 6.19 7.86 11.22 10.35 8.53 10.55 12.84 11.95 21.64 9.54 18.37 4.42 | $\begin{array}{r} 5.74\\ 5.22\\ 6.64\\ 6.14\\ 6.27\\ 6.21\\ 2.81\\ 3.11\\ 2.82\\ 3.45\\ 1.53\\ \end{array}$ | $\begin{array}{c} 0.90\\ 0.90\\ 0.90\\ 0.90\\ 0.89\\ 0.89\\ 1.86\\ 1.14\\ 1.26\\ 0.97\\ 0.86\\ \end{array}$ | 3.07 3.11 3.52 3.16 3.46 3.68 2.35 2.41 1.78 2.44 1.31 |

Protein (g/100g)

Millets are high in protein content than rice which is a staple food of south India. The protein content of millets when compared to rice it is twice higher. As per WHO standards, the recommended dietary allowance of protein per day, for men and women are 60 g and 50 g, respectively. It is fulfilled by consuming 600 g of millets instead of 1000 g of rice. The protein content ranged from 10.50 g (SiA 2579 and SiA 4182) to 18.38 g (SiA 4180) with a mean of 14.10 g. Moderate PCV (10.88) and low GCV (9.94) recorded for this trait indicated less variation among the test genotypes studied.

Carbohydrate (g/100g)

Carbohydrates provide quick energy to the body. Usually millets contain ample quantity of carbohydrates in their grains but comparatively they have low proportion of carbohydrates than rice and wheat. Lower carbohydrates and high fiber content in food is desired for maintenance of good health, especially for diabetics and cardiovascular patients. The carbohydrate in 100 g of seed ranged from 50.05 g (SiA 3419) to 76.42 g (SiA 4016) with a mean of 61.87 g.

Calcium (mg/100g)

Plant-based sources for calcium are good for strengthening bones of human body. They provide an easily absorbable source of calcium. The calcium content in 100 g of seed ranged from 16.00 mg (SiA 2737, SiA 3496, SiA 805, SiA 3908 and SiA 3419) to 40.00 mg (SiA 3038 and SiA 4044) with a mean of 24.03 mg.

Magnesium (mg/100g)

Magnesium acts as a co-factor for more than 300 enzymes, including enzymes involved in the body's use of glucose and insulin secretion. The magnesium content in 100 g of seed varied from 4.80 mg (SiA 3038 and SiA 3749) to 31.20 mg (SiA 4027) with a mean of 15.10 mg.

Iron (mg/100g)

Natural **Iron** is readily available in plants and their consumption helps in recovery from anaemia. The iron content in 100 g of seed ranged from 4.42 mg (SiA 3430) to 32.50 mg (SiA 3511) with a mean of 10.88 mg.

Zinc (mg/100g)

Zinc is needed for the proper growth and maintenance of the human body. It is found in several systems and biological reactions, and it is needed for immune function, wound healing, blood clotting, thyroid function, and much more. The zinc content in 100 g of seed varied from 1.53 mg (SiA 2663) to 7.07 mg (SiA 3554) with a mean of 3.26 mg.

Copper (mg/100g)

Copper is an essential nutrient for the body. Together with iron, it enables the body to form red blood cells. It helps to maintain healthy bones, blood vessels, nerves, and immune function, and it contributes to iron absorption. Sufficient copper in the diet may help prevent cardiovascular disease and osteoporosis, too. The copper content in 100 g of seed ranged from 0.86 mg (SiA 3827, SiA 3908, SiA 3639 and SiA 3430) to 2.76 mg (SiA 3611 and SiA 4016) with a mean of 1.26 mg.

Manganese (mg/100g)

Manganese improves bone health in combination with other nutrients. Strong antioxidant properties may reduce disease risk. It helps reduce inflammation, particularly in combination with glucosamine and chondroitin. Besides, it plays a vital role in blood sugar regulation. The manganese content in 100g of seed ranged from 1.31 mg (SiA 3908) to 4.12 mg (SiA 3559) with a mean of 2.33 mg.

In a nutshell, the study of 100 foxtail millet genetic resources for the nutrient composition revealed existence of sufficient availability for nutritional traits and this in turn offers ample opportunities to the farmers and food industry towards their exploitation for therapeutic benefits and better human health.

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