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Ashwini Pardeshi
Student, Department of Soil Science and Agricultural Chemistry, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli, Maharashtra, India

Pooja Sawant
Assistant Professor, Department of Soil Science and Agricultural Chemistry, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli, Maharashtra, India

PB Sanap
Vegetable Specialist, Central Experimentation Station, Wakawali, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli, Maharashtra, India

MC Kasture
Deputy Director of Research, Department of Agriculture, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli, Maharashtra, India

SB Dodake
Head, Department of Soil Science and Agricultural Chemistry, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli, Maharashtra, India

Corresponding Author:
Ashwini Pardeshi
Student, Department of Soil Science and Agricultural Chemistry, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli, Maharashtra, India

Nutritional composition of chilli (*Capsicum annumm* L.) germplasm under Konkan condition

Ashwini Pardeshi, Pooja Sawant, PB Sanap, MC Kasture and SB Dodake

Abstract
Hundred chilli germplasm *viz*., pure germplasm, F_2 generation, F_5 generation and F_6 generation cultivated in Konkan region were studied for nutritional composition, *viz*., Moisture, Ascorbic acid, Total N, P, K, and Micronutrients *viz*., Cu, Fe, Zn and Mn during the year 2018-2019. Analysis of variance revealed significant differences among the germplasm. Highest moisture percentage (93.58 %) was recorded in WKLC-1 of F_2 generation of chilli germplasm, while Ascorbic acid was found to be maximum (196.06 mg 100 g^{-1}) in WKLC-15 of F_6 generation of chilli germplasm. The study revealed highest nitrogen, phosphorous and potassium content in WKLC-12 (1.75%), WKLC-2 (0.20%) and WKLC-10 (2.92%) of F_2 generation, respectively. The values for iron, zinc and copper content were found to be maximum in WKLC-18 (23.18 mg kg^{-1}), WKLC-6 (42.75 mg kg^{-1}) and WKLC-3 (45.37 mg kg^{-1}), respectively, of F_2 generation of chilli germplasm. Wakawali-19 (34.66 mg kg^{-1}) of pure chilli germplasm showed highest Manganese content.

Keywords: Chilli germplasm, moisture, ascorbic acid, nitrogen, phosphorous, potassium, micronutrients

Introduction
Chilli (*Capsicum annuum* L.) is one of the important vegetable cum spice crop. The origin of chilli is Maxico, with secondary centres in Guatemala and Bulgaria. Chilli is mainly grown for its green and dry pods. India is one of the leading country as far as area and production are concerned and grown over an area of 7, 75, 000 hectares, with an annual production of 14,92,000 tonnes (HSG, 2015) [2]. Chilli being a heavy feeder and exhaustive crop responds very well to nutrient application. Among various factors responsible for low production of chilli, nutrition is of prime importance for maintaining higher yield and soil fertility. The increasing use of chemical fertilizers to increase vegetable production has been widely recognized but its long run impact on soil health, ecology and other natural resources are detrimental which affect living organisms including beneficial soil microorganism and human being. Therefore this study was taken up to determine the nutrient composition of chili germplasm under Konkan condition.

Materials and Methods
The present experiment was conducted at wakawali research station, Dapoli, during kharif season, 2018-2019. The details of the chilli germplasm used in the study were presented in table 1. The experiment was laid out in a completely randomised block design with three replication.

Moisture
Determination of moisture content (%) was done by oven dry method. Ten g of the sample was dried in a petri dish in oven at 105 ºC till its weight became constant. Moisture content of the sample is expressed in g 100 g^{-1} of the sample (AOAC, 1990) [1].

$$\text{Moisture content (g 100 g}^{-1}) = \frac{\text{Initial weight} - \text{Final weight}}{\text{Initial weight}} \times 100$$

Ascorbic acid
Ascorbic acid was estimated by 2,6-dichlorophenol endophenol dye method as described by Ranganna (1997) [11]. Five g of fresh chilli pod was ground with chilled 3 per cent meta-phosphoric acid solution and volume made to 100 ml with 3 per cent meta-phosphoric acid. The extract was filtered through whatman No. 40 filter paper and 10 ml aliquot was titrated

with standard dye solution at room temperature to pink end point.

$$\text{Ascorbic acid (mg 100 g}^{-1}\text{ sample)} = \frac{0.5\text{mg}}{\text{V2mL}} \times \frac{\text{V1}}{\text{5mL}} \times \frac{\text{100mL}}{\text{Wt.of the sample}} \times 100$$

Total nitrogen

The plant samples were digested with conc. H_2SO_4 and the total nitrogen content was determined by using Pelican make Distyl Em distillation unit (Tandon, 1993) [13].

Preparation of acid extract

The acid extract of oven dried chilli fruit sample was made as per diacid digestion method described by Toth *et al*. (1948) [14]. The diacid mixture was prepared by using conc. HNO_3 and 70 per cent $HCLO_4$ in 9:4 ratio. 0.5 g of dried chilli powder was digested with 15 ml of diacid mixture. After complete digestion volume was made 50 ml. This acid extract was used for estimation phosphorous, potassium and micronutrient

Total phosphorous

Total phosphorous in the digested sample were estimated by using spectrophotometer as described by Tandon (1993) [13].

Total potassium

Total potassium in the digested sample were estimated by using flame photometer as described by Tandon (1993) [13].

Total micronutrients (Fe, Mn, Zn and Cu)

Micronutrients i.e. Fe, Mn, Zn and Cu in the digested sample were estimated by using atomic absorption spectrophotometer (Mclaren and Crawford, 1950) [7].

Statistical analysis

The experimental data was analyzed statistically by the technique of analysis of variance as applicable to randomized block design. The significance of treatment difference was tested by 'F' (Variance ratio) test. Critical difference (CD) at 5 per cent level of probability was worked out for comparison and statistical interpretation of the treatment means (Panse and Sukhatme, 1967) [8].

Table 1: Details of chilli germplasms used for the study

Sr. No.	Germplasm
1.	DPLC – 1
2.	DPLC – 2
3.	DPLC – 3
4.	DPLC – 4
5.	DPLC – 5
6.	DPLC – 6
7.	DPLC – 7
8.	DPLC – 8
9.	DPLC – 9
10.	DPLC – 10
11.	DPLC – 11
12.	DPLC – 12
13.	DPLC – 13
14.	DPLC – 14
15.	DPLC – 15
16.	Jwala
17.	Jayanti
18.	Pb. Gucchedar
19.	BC – 24
20.	BC – 28
21.	Konkan Kirti
22.	Sangam
23.	Wakawali-13
24.	Wakawali-19
25.	Wakawali-20
26.	ACS – 9818
27.	R.H.R. – 16 – 5
28.	R.H.R. – 57
29.	Pant-C3
30.	P. Tejas
31.	LCA-206
32.	LCA-283
F_2 Generation	
33.	WKLC – 1
34.	WKLC – 2
35.	WKLC – 3
36.	WKLC – 4
37.	WKLC – 5
38.	WKLC – 6
39.	WKLC – 7
40.	WKLC – 8
41.	WKLC – 9
42.	WKLC – 10

43.	WKLC – 11
44.	WKLC – 12
45.	WKLC – 13
46.	WKLC – 14
47.	WKLC – 15
48.	WKLC – 16
49.	WKLC – 17
50.	WKLC – 18
51.	WKLC – 19
52.	WKLC – 20
53.	WKLC – 21
54.	WKLC – 22
55.	WKLC – 23
56.	WKLC – 24
57.	WKLC – 25
58.	WKLC – 26
59.	WKLC – 27
60.	WKLC – 28
61.	WKLC – 29
6.	WKLC – 30
63.	WKLC – 31
64.	WKLC – 32
65.	WKLC – 33
66.	WKLC – 34
F_5 Generation	
67.	WKLC – 1
68.	WKLC – 2
69.	WKLC – 3
70.	WKLC – 4
71.	WKLC – 5
72.	WKLC – 6
73.	WKLC – 7
74.	WKLC – 8
75.	WKLC – 9
76.	WKLC – 10
77.	WKLC – 11
78.	WKLC – 12
79.	WKLC – 13
80.	WKLC – 14
81.	WKLC – 15
82.	WKLC – 16
83.	WKLC – 17
F_6 Generation	
84.	WKLC – 1
85.	WKLC – 2
86.	WKLC – 3
87.	WKLC – 4
88.	WKLC – 5
89.	WKLC – 6
90.	WKLC – 7
91.	WKLC – 8
92.	WKLC – 9
93.	WKLC – 10
94.	WKLC – 11
95.	WKLC – 12
96.	WKLC – 13
97.	WKLC – 14
98.	WKLC – 15
99.	WKLC – 16
100.	WKLC – 17

Results and Discussion

Analysis of variance revealed highly significant difference among the germplasm studied (table 2, 3, 4 and 5). From the table, it was evident that wide variation was observed in all the germplasm studied.

Moisure

Among the hundread chilli germplasm, moisture content ranged from 61.81 to 93.58%. Table 2, 3, 4 and 5 gives information about moisture content and indicated that highest moisture content was found to be highest in WKLC-1 of F_2

generation of Chilli germplasm and lowest moisture content was found in Jwala of pure chilli germplasm. Khyadagi *et al.* (2012) [3, 4] reported that the moisture percentage ranged from 71.35 to 91.15 and 66.44 to 80.57 at green and ripe stages of chilli cultivars and found a decrease in the moisture percentage with increase in maturity stage.

Ascorbic acid

Ascorbic acid content was ranged from 36.90 to 196.06 mg 100 g^{-1}. Maximum ascorbic acid content was recorded in WKLC-15 of F_6 generation and lowest ascorbic acid content was recorded in Wakawali-20 of pure chilli germplasm. Similar are the findings (177.60 mg100 g^{-1} of ascorbic acid) of Pariari and Khan (2013). However, Kapur *et al.* (2012) [3, 4] have reported lower values (49 mg 100 g^{-1}) of ascorbic acid in fresh chilli fruits.

Primary nutrient

Total nitrogen

The nitrogen content in different pure germplasm, F_2 generation, F_5 generation and F_6 generation of chilli varied from 0.76 to 1.58 %, 0.72 to 1.75 %, 0.90 to 1.47 % and 0.55 to 1.45 %, respectively (Table 2, 3, 4 and 5). The highest nitrogen content was found in WKLC-12 of F_2 generation and lowest nitrogen content was found in Jayanti of pure germplasm, WKLC-2 of F_6 generation of chilli germplasm. The findings of the study agree with the findings of Kapse *et al.* (2016) [5]. However, Malik *et al.* (2011) [6] have reported the highest nitrogen content of 4.38% in chilli with the application of organic manures and inorganic fertilizers

Total phosphorous

The phosphorous content in different pure germplasm, F_2 generation, F_5 generation and F_6 generation of chilli varied from 0.12 to 0.18 %, 0.12 to 0.20 %, 0.13 to 0.19 % and 0.12 to 0.18 %, respectively (Table 2, 3, 4 and 5). The highest phosphorous content was found in WKLC-2 of F_2 generation and lowest phosphorous content was found in Jayanti of pure germplasm, WKLC-8, WKLC-12 and WKLC-28 of F2 generation, WKLC-6 F6 generation of chilli geremplasm. The findings of the study are in line with the findings of Malik *et al.* (2011) [6] and Kapse *et al.* (2016) [5] who have reported the highest phosphorous content of 0.46% and 1.68 %, respectively.

Total potassium

The potassium content in different pure germplasm, F_2 generation, F_5 generation and F_6 generation of chilli varied from 1.05 to 2.85 %, 0.55 to 2.92 %, 1.10 to 2.67 % and 1.11 to 2.66 %, respectively (Table 2, 3, 4 and 5). The highest potassium content was found in WKLC-10 of F_2 generation and lowest nitrogen content was found in WKLC-7 of F_2 generation of chilli germplasm. The findings of the study are in line with the findings of Kapse *et al.* (2016) [5] who have reported the highest potassium content of 2.85 %.

Micronutrients

Iron

The iron content in different pure germplasm, F_2 generation, F_5 generation and F_6 generation of chilli varied from 5.67 to 13.60, 7.60 to 23.41, 6.27 to 15.26 and 7.82 to 20.52 mg kg^{-1}, respectively (Table 2, 3, 4 and 5). The highest iron content was found in WKLC-18 of F_2 generation and lowest nitrogen content was found in DPLC-3 of pure chilli germplasm.

Manganese

The manganese content in different pure germplasm, F_2 generation, F_5 generation and F_6 generation of chilli varied from 11.44 to 34.66, 12.35 to 34.46, 15.23 to 24.61 and 8.46 to 33.34 mg kg^{-1}, respectively (Table 2, 3, 4 and 5). The highest iron content was found in Wakawali-19 of pure germplasm and lowest manganese content was found in DPLC-15 of pure chilli germplasm.

Zinc

The zinc content in different pure germplasm, F_2 generation, F_5 generation and F_6 generation of chilli varied from 11.40 to 31.39, 16.30 to 42.75, 15.57 to 32.99 and 12.34 to 27.05 mg kg^{-1}, respectively (Table 2, 3, 4 and 5). The highest zinc content was found in WKLC-6 of F_2 generation and lowest manganese content was found in Pant-C3 of pure chilli germplasm.

Copper

The copper content in different pure germplasm, F_2 generation, F_5 generation and F_6 generation of chilli varied from 24.19 to 42.52, 31.92 to 45.37, 33.64 to 42.51 and 26.64 to 41.33 mg kg^{-1}, respectively (Table 2, 3, 4 and 5). The highest copper content was found in WKLC-3 of F_2 generation and lowest manganese content was found in Konkan Kirti of pure chilli germplasm.

Table 2: Nutrient composition of pure chilli germplasm

Pure germplasm	Moisture (%)	Ascorbic acid (mg100 g^{-1})	Total nitrogen %	Total phosphorous %	Total potassium %	Fe (mg kg^{-1})	Mn (mg kg^{-1})	Zn (mg kg^{-1})	Cu (mg kg^{-1})
DPLC-1	84.50	44.83	1.08	0.14	1.91	9.52	12.30	14.50	29.56
DPLC-2	83.57	83.77	1.58	0.17	2.39	10.51	15.69	18.74	32.59
DPLC-3	82.65	72.82	1.27	0.18	2.23	5.67	18.82	14.42	33.31
DPLC-4	78.06	71.11	1.46	0.15	2.24	10.30	22.69	20.41	30.52
DPLC-5	74.42	114.19	1.35	0.16	1.36	6.38	14.45	27.15	25.71
DPLC-6	67.65	74.97	1.17	0.17	1.85	7.42	15.54	14.77	37.48
DPLC-7	82.38	65.97	1.07	0.13	1.05	6.79	13.36	14.58	31.23
DPLC-8	84.76	72.01	0.83	0.16	2.77	9.46	15.52	16.82	41.22
DPLC-9	71.94	174.98	0.76	0.13	2.74	7.44	18.76	20.21	35.25
DPLC-10	81.58	61.09	1.42	0.15	1.67	7.41	13.42	21.41	28.61
DPLC-11	85.44	52.68	0.97	0.17	2.84	7.41	16.54	21.74	24.19
DPLC-12	82.95	56.77	1.05	0.15	1.86	8.47	13.67	15.80	27.41
DPLC-13	77.71	59.97	1.15	0.17	1.84	7.55	15.64	16.80	29.55
DPLC-14	82.20	70.48	1.09	0.14	2.85	8.63	17.75	17.60	31.22
DPLC-15	87.23	43.12	0.95	0.17	1.75	6.31	11.44	15.77	29.34
Jwala	61.81	137.10	1.36	0.14	1.81	6.36	15.24	16.39	35.62
Jayanti	79.84	73.03	1.27	0.12	1.31	8.46	15.87	19.63	32.44

Pb. Gucchedar	82.58	63.99	1.35	0.14	1.62	7.34	17.17	15.42	36.56
BC-24	85.08	143.86	1.46	0.16	1.43	9.48	16.86	17.71	30.59
BC-28	80.52	167.91	1.06	0.15	1.74	10.56	17.44	18.75	32.54
Konkan Kirti	76.80	72.12	1.07	0.14	2.14	9.32	20.89	23.28	42.52
Sangam	78.47	70.02	1.14	0.15	2.09	9.32	14.33	14.53	33.66
Wakawali-13	68.48	134.17	1.09	0.16	2.35	9.24	17.91	18.69	31.79
Wakawali-19	90.16	42.31	0.93	0.15	2.15	13.60	34.66	31.39	39.48
Wakawali-20	85.15	36.90	0.87	0.13	1.66	8.46	16.62	17.67	38.53
ACS-9818	78.70	131.21	1.26	0.17	2.20	6.47	14.71	25.83	33.73
RHR-16-5	85.11	113.70	1.34	0.14	1.56	6.36	15.64	16.56	34.57
RHR-57	83.87	82.84	1.51	0.17	1.42	9.66	17.64	14.20	34.20
Pant-C3	83.57	85.89	1.21	0.13	2.22	9.74	14.37	11.40	39.65
P. Tejas	77.36	111.26	1.15	0.14	2.52	6.41	15.58	17.62	36.24
LCA-206	81.76	177.59	0.91	0.15	1.67	7.29	13.57	16.28	38.22
LCA-283	84.37	122.07	1.32	0.16	2.62	8.53	18.84	19.36	40.61
SE ±	0.015	0.028	0.011	0.004	0.013	0.008	0.003	0.004	0.005
CD (P=0.05)	0.043	0.078	0.032	0.010	0.037	0.023	0.008	0.012	0.015

Table 3: Nutrient composition of F_2 generation of chilli germplasm

F_2 Generation	**Moisture (%)**	**Ascorbic acid (mg 100 g^{-1})**	**Total nitrogen %**	**Total phosphorous %**	**Total potassium %**	**Fe (mg kg^{-1})**	**Mn (mg kg^{-1})**	**Zn (mg kg^{-1})**	**Cu (mg kg^{-1})**
WKLC-1	93.58	67.76	1.13	0.14	2.50	9.19	20.16	20.78	38.18
WKLC-2	84.01	96.31	0.81	0.20	2.87	15.32	21.64	22.19	34.18
WKLC-3	87.73	89.02	1.50	0.14	0.86	11.23	29.86	21.79	45.37
WKLC-4	85.84	63.04	1.48	0.15	2.53	7.60	24.19	22.38	41.52
WKLC-5	86.48	133.33	1.22	0.17	2.18	13.56	21.15	42.21	38.71
WKLC-6	88.22	64.96	1.36	0.16	2.06	10.77	21.79	42.75	36.26
WKLC-7	87.11	78.92	1.38	0.17	0.55	12.33	15.83	16.30	40.62
WKLC-8	87.54	52.01	1.04	0.13	1.63	11.41	17.60	22.00	41.29
WKLC-9	82.32	88.46	1.54	0.14	2.74	10.76	18.81	21.47	38.56
WKLC-10	87.68	109.61	1.26	0.16	2.92	15.68	20.26	27.97	33.70
WKLC-11	83.26	140.78	1.34	0.17	2.91	18.32	18.76	23.67	33.48
WKLC-12	82.65	130.32	1.75	0.13	1.43	13.21	16.66	16.57	35.18
WKLC-13	85.73	82.03	1.36	0.14	2.18	11.58	12.35	18.86	37.61
WKLC-14	87.61	54.10	1.11	0.15	2.44	12.54	17.77	31.96	33.90
WKLC-15	86.18	48.10	1.16	0.16	2.28	16.35	17.70	19.13	39.73
WKLC-16	84.45	161.55	1.29	0.17	2.67	12.68	23.82	21.96	41.58
WKLC-17	86.10	60.25	0.94	0.15	1.18	11.66	17.58	20.86	32.93
WKLC-18	81.81	103.32	1.35	0.14	2.50	23.41	18.13	20.59	38.51
WKLC-19	87.00	158.06	0.72	0.17	2.71	12.40	19.26	21.62	32.52
WKLC-20	85.96	175.67	1.40	0.16	1.14	8.20	16.43	23.03	42.53
WKLC-21	86.14	116.04	1.51	0.14	2.75	17.18	22.46	23.02	31.92
WKLC-22	87.57	85.52	1.57	0.15	1.31	12.57	20.56	21.73	36.20
WKLC-23	83.40	78.82	1.13	0.16	1.23	12.46	19.25	20.39	38.52
WKLC-24	86.79	68.38	1.23	0.17	2.04	10.55	15.22	21.23	33.92
WKLC-25	88.35	78.91	1.26	0.15	1.31	14.25	34.46	23.49	34.77
WKLC-26	84.32	85.32	1.30	0.16	2.72	11.66	20.87	21.04	39.72
WKLC-27	87.08	185.36	1.15	0.15	2.25	18.31	24.62	22.65	35.91
WKLC-28	86.37	60.10	1.05	0.13	1.40	11.51	17.61	21.59	32.62
WKLC-29	78.43	109.49	0.85	0.16	2.13	8.35	19.61	17.88	42.92
WKLC-30	84.52	140.88	1.28	0.17	1.93	8.50	16.68	33.40	40.70
WKLC-31	76.54	137.47	1.20	0.15	1.43	10.83	20.34	23.27	36.83
WKLC-32	87.17	79.07	1.02	0.18	1.63	10.65	14.38	19.36	33.66
WKLC-33	85.49	92.30	0.81	0.16	2.13	8.60	16.81	19.82	38.72
WKLC-34	90.09	103.68	1.46	0.14	1.24	11.19	18.23	24.29	39.23
SE ±	0.013	0.037	0.011	0.004	0.014	0.004	0.009	0.038	0.008
CD (P=0.05)	0.036	0.104	0.030	0.010	0.040	0.012	0.025	0.108	0.023

Table 4: Nutrient composition of F_5 generation of chilli germplasm

F_5 Generation	**Moisture (%)**	**Ascorbic acid (mg 100 g^{-1})**	**Total nitrogen %**	**Total phosphorous %**	**Total potassium %**	**Fe (mg kg^{-1})**	**Mn (mg kg^{-1})**	**Zn (mg kg^{-1})**	**Cu (mg kg^{-1})**
WKLC-1	84.68	68.80	1.02	0.15	1.85	13.70	18.63	18.26	35.59
WKLC-2	85.93	58.31	0.99	0.14	1.10	14.12	18.75	32.99	37.50
WKLC-3	86.85	44.88	1.31	0.15	2.44	15.26	23.43	22.14	34.30
WKLC-4	92.67	65.66	1.17	0.16	2.67	9.47	19.75	20.72	33.84
WKLC-5	86.59	79.25	1.40	0.15	2.47	9.43	18.92	23.48	36.66
WKLC-6	87.21	60.95	1.25	0.16	1.70	8.74	18.44	18.72	40.44

WKLC-7	87.13	57.90	1.03	0.17	1.36	8.45	16.40	15.57	42.51
WKLC-8	86.80	133.17	1.09	0.16	1.51	9.33	21.22	19.89	37.35
WKLC-9	86.63	79.06	0.99	0.19	2.41	8.56	16.40	19.01	33.64
WKLC-10	87.27	120.06	1.15	0.14	1.78	8.64	20.45	20.99	39.62
WKLC-11	82.26	155.39	1.08	0.16	2.28	7.47	24.61	24.16	36.56
WKLC-12	84.39	62.86	0.90	0.17	1.71	6.80	22.62	22.96	38.56
WKLC-13	82.12	146.26	1.29	0.13	1.95	6.27	15.23	17.72	35.47
WKLC-14	81.59	60.72	0.97	0.16	1.20	8.18	21.21	18.65	39.77
WKLC-15	82.44	81.03	1.23	0.15	2.56	6.45	15.26	16.21	40.85
WKLC-16	80.87	91.81	1.47	0.14	1.38	9.31	17.17	17.74	38.89
WKLC-17	83.90	96.02	0.97	0.17	1.27	8.83	17.84	19.27	37.57
SE ±	0.024	0.058	0.009	0.004	0.023	0.130	0.003	0.054	0.010
CD (P=0.05)	0.070	0.167	0.027	0.012	0.066	0.374	0.009	0.155	0.028

Table 5: Nutrient composition of F_6 generation of chilli germplasm

F_6 Generation	Moisture (%)	Ascorbic acid (mg 100g^{-1})	Total nitrogen %	Total phosphorous %	Total potassium %	Fe (mg kg^{-1})	Mn (mg kg^{-1})	Zn (mg kg^{-1})	Cu (mg kg^{-1})
WKLC-1	86.92	60.59	0.97	0.15	2.15	8.12	18.28	13.84	33.60
WKLC-2	83.14	56.79	0.55	0.13	2.25	13.13	16.67	14.73	30.27
WKLC-3	86.40	70.39	1.16	0.18	1.41	12.40	14.52	12.34	38.10
WKLC-4	82.53	76.02	1.21	0.15	1.60	13.33	8.46	15.12	37.29
WKLC-5	85.34	130.05	1.45	0.14	2.56	12.38	17.23	19.55	41.33
WKLC-6	85.86	105.30	1.24	0.12	1.56	15.63	16.32	21.95	32.22
WKLC-7	81.04	82.76	0.96	0.14	1.39	10.28	15.17	18.55	26.64
WKLC-8	84.91	67.39	1.19	0.17	2.66	7.82	16.28	22.23	31.43
WKLC-9	87.76	56.38	1.00	0.15	1.26	20.52	20.33	18.17	29.30
WKLC-10	86.52	169.05	1.12	0.16	1.33	16.67	33.34	20.82	33.62
WKLC-11	88.29	66.71	0.97	0.17	1.11	13.30	20.64	21.82	38.52
WKLC-12	86.75	76.47	0.67	0.14	1.30	17.72	18.83	17.10	32.44
WKLC-13	87.25	94.70	0.76	0.13	1.74	15.55	27.52	18.60	36.43
WKLC-14	85.96	87.75	0.84	0.16	1.44	10.24	17.35	27.05	36.20
WKLC-15	79.60	196.06	1.23	0.13	2.30	12.24	15.83	12.90	33.44
WKLC-16	88.42	86.62	1.42	0.14	2.32	9.54	20.89	16.82	31.67
WKLC-17	89.58	109.65	0.85	0.15	1.53	13.69	15.81	15.59	35.87
SE ±	0.029	0.038	0.020	0.004	0.009	0.008	0.048	0.055	0.005
CD (P=0.05)	0.083	0.111	0.057	0.011	0.025	0.022	0.137	0.157	0.016

Conclusion

From the above study it can be indicated that availability of germplasm possessing desirable characteristics. Hundred Chilli germplasm varieties showed varying nutrient composition. Highest Moisture and ascorbic acid content was recorded in WKLC-1 of F_2 generation and WKLC-15 of F_6 generation. While, WKLC-12, WKLC-2 and WKLC-10 of F_2 generation had the highest nitrogen, phosphorous and potassium content, respectively. Highest values for iron, zinc and copper content were found in WKLC-18, WKLC-6 and WKLC-3 of F_2 generation of chilli germplasm. Manganese content was found to be highest in Wakawali-19 of pure chilli germplasm.

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