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Fluorine content in dornala, thripuranthakam and yaragondapalem

Golamari Siva Reddy, Manasa Nelagonda and Keerthana Satheesh Kumar

Centre for Bioprocess Technology, Department of Biotechnology, K L University, Green Fields, Vaddeswaram,
Andhrapradesh, India-522502

ABSTRACT

Continuation of the past paper the object of the present study is to complete the Physico – Chemical examination of well and bore well water tests from ten inspecting stations of Prakasam District (Rural zone) for a time of 3 months from October 2015 to December 2015. The examination of various parameters specifically temperature, pH, shading and fluoride were done according to standard strategies. The outcomes were contrasted and the qualities stipulated by WHO and ICMR measures. The outcomes demonstrate that the fluoride in some examining stations was found over as far as possible presumably because of tainting with ocean water.

Keywords: Dornala, Thripuranthakam and Yaragondapalem-Fluoride content–Rural Area– AP

INTRODUCTION

Fluoride (thirteenth most inexhaustible component) happens in joined structure due to it's very responsiveness. It is available normally in all nourishments and drinks including water, however levels of which can change broadly [1]. The fluoride aggregation of ground water fluctuates as indicated by the wellspring of water, geographical plan of the range and measure of downpour fall and so forth [2].

Fluoridation is the expansion of fluoride mixes into drinking water, to alter focuses to levels somewhere around 0.8 and 1.0 mg/lit for the valuable impact of tooth rot counteractive action.

Fluoride can likewise adversely affect tooth polish and might offer ascent to gentle dental Fluorosis. In India, around 62 million individuals including 6 million youngsters experience the ill effects of fluorosis as a result of high utilization of high Fluoride content [3]. Longer introduction to fluoride prompts certain sorts of bone illnesses [4]. Insights uncover that fluoride harming is more spread than the Arsenic pollution in ground water in the nation [5]. Keeping in perspective of this, it is proposed to do a deliberate study on fluoride sullying of ground water assets of certain rustic zones of Prakasam Dt. AP, India.

MATERIALS AND METHODS

Water tests (Bore Well and Open Well) gathered from ten examining stations chose for the examination were given below:

S1–Dornala, S2-Thripuranthakam, S3-Yaragondapalem, S4-Gobburu, S5-Dornala Siva Temple, S6-Thripuranthakam High school building, S7-Yaragondapalem High school building, S8-Gobburu (outside town), S9-Dornala Ramalayam and S10 - Yaragondapalem Siva Temple.

Tests for examination were gathered in sanitized jugs utilizing the standard strategy for get (or) get tests as per standard techniques for APHA (1995) while accumulation temperature of these zones was noted by 1200 C

thermometer. Every one of the chemicals and reagents utilized were of systematic evaluation. D.D water was utilized for the readiness of arrangements. The examination of parameters in particular pH, temperature and Fluoride were completed – according to the strategies depicted in APHA (1995) [6-8]. Determination of Fluoride has been completed utilizing SPADNS strategy.

RESULTS AND DISCUSSION

The results obtained on the determination of various parameter including are presented in Tables – 1 to 3.

TEMPERATURE

A rise in temperature of water leads to the speeding up of chemical reactions in water, reduces the solubility of gases and amplifies the tastes and odours. The average temperature of the present study ranged from 27.85 - 31.94⁰ C.

It is known that p^H of water (7.5 to 9.9) does not has no direct effect on health. But lower value below 5.0 produce sore taste and has higher value above 8.9 are of alkaline taste. The p^H values of the present investigation were within the ICMR standards (7.0 – 8.9). Conductivity varies with the season as well as ions present in water.

CHLORIDE

Chloride happens in a wide range of common waters. The high grouping of chloride is thought to be an indication of contamination by sewage misuse of creature starting point. Businesses are likewise critical wellsprings of chloride in water. Chloride values got in the study are observed to be higher (212.4 mg/lit) in S1 inspecting station than different stations.

FLUORIDE

Fluoride in ground water is because of flourspar, cryolite, flourspatite and hydroxylapatite Fluoride bearing shakes, for example, and so on. Overabundance fluoride utilization influences plants and creatures. Out of ten testing stations concentrated, low fluoride focus is seen in the specimens S3 and S5 Higher qualities are acquired from S9 inspecting station, where the fluoride substance is (surpassed 1.5 mg/lit) over as far as possible as recommended by Indian models for drinking water quality [7-8].

Tables – 1 to 3→ the determination of different parameters (the outcomes got)

Table – 1 Physico – Chemical Parameters of Water Samples Collected on 01-10-2015

Station No.	Temperature	Color	P ^H	Chloride(mg/lit)	Fluoride(mg/lit)
S1	26.99	Colorless	7.49	89.19	1.25
S2	27.08	Colorless	7.89	86.54	1.29
S3	27.09	Colorless	7.98	48.62	0.79
S4	27.52	Colorless	8.09	45.95	0.82
S5	28.98	Colorless	8.12	40.68	0.66
S6	28.99	Colorless	7.28	75.52	1.64
S7	29.08	Colorless	7.69	80.04	1.91
S8	29.19	Colorless	8.57	87.29	1.92
S9	29.38	Colorless	7.74	155.87	2.93
S10	29.45	Colorless	8.93	125.96	2.03

Table – 2 Physico – Chemical Parameters of Water Samples Collected on 01-11-2015

Station No.	Temperature	Color	P ^H	Chloride(mg/lit)	Fluoride(mg/lit)
S1	26.01	Colorless	7.62	89.24	1.22
S2	26.04	Colorless	7.84	86.54	1.24
S3	27.06	Colorless	7.96	48.97	0.76
S4	27.08	Colorless	7.08	45.36	0.89
S5	27.10	Colorless	8.50	40.74	0.60
S6	28.12	Colorless	7.43	75.64	0.94
S7	26.14	Colorless	7.69	80.21	0.96
S8	27.16	Colorless	8.85	87.35	0.68
S9	28.18	Colorless	7.70	105.87	1.10
S10	27.20	Colorless	8.45	95.52	0.86

Table – 3 Physico–Chemical Parameters of Water Samples Collected on 01-12-2015

Station No.	Temperature	Color	P ^H	Chloride(mg/lit)	Fluoride(mg/lit)
S1	29.25	Colorless	7.89	89.58	1.12
S2	26.54	Colorless	7.86	86.79	1.82
S3	27.67	Colorless	7.57	48.36	0.97
S4	27.98	Colorless	7.58	45.82	0.08
S5	27.45	Colorless	8.69	40.41	0.76
S6	28.64	Colorless	7.71	75.65	0.49
S7	26.56	Colorless	7.39	80.16	0.09
S8	27.08	Colorless	8.80	87.28	0.46
S9	28.19	Colorless	7.93	105.78	1.79
S10	27.52	Colorless	8.07	95.82	0.89

CONCLUSION

It can be finished up structure the above study that fluoride content in a few ranges was found over the reasonable levels than required. Henceforth individuals in those ranges ought to devour secured water containing fluoride inside of as far as possible keeping in mind the end goal to avoid dental and skeletal fluorosis for the future era. On the other hand fluoride focus can be weakened by actuating after Nalgonda system ground water energizes methods. Further, it can likewise be said that a checking framework is to be built up to intermittently assess the impacts of fluoride tainting.

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