JOURNAL OF PURE AND APPLIED MICROBIOLOGY, Dec. 2015. Vol. **9**(4), p. 3333-3334

"Emphasizing the "N-attaining" "Feature" of a "Kind of Bacteria" from "Barak Valley", Assam, India

Mrinal Kanti Bhattacharjee[1]*, P.B. Mabzumder[2] and G.D.Sharma[3]

[1]SNVM School at Silchar, Department of Biotechnology, Assam University, Assam, India.
[2]Department of Biotechnology, Assam University, Assam, India, Silchar.
[3]Bilaspur University at present.

(Received: 17 September 2015; accepted: 03 November 2015)

A "kind of bacteria" was separated out and it was "grown-up" in "a medium" which is devoid of "nitrogen". "Again and again" it was tried to have more varieties of the same " kind of bacteria" then these were safeguarded by make use of "slant cultures" so that they could be used for other "experiments" and then its accessibility for "nitrogen attainment" was found out. All the things were discussed in "brief" in this article.

Key words: "kind of bacteria", devoid, "slant cultures".

As it is clear about the magnitude of "tea plants" in our country and more importantly in this locality of "Assam". Over couple of years, attention has been attracted by *Azospirillum* as a prospective source of "Biofertilizer[1]".This article comprises of feature of a "kind of bacteria" by its "N-fixability" through a systematical manner.

MATERIALS AND METHODS

The "kind of bacteria" was grown in "Okon's medium"[2] got from the source [3].The nitrogen "appraisal" was made for it through "ARA" ("Acetylene Reduction Assay"), methods were followed by [4] and [5].

RESULTS AND DISCUSSION

It is quite understandable from the top "diagram" that this "bacterial variety" has "N-attainment competence". In lots of papers the "N-acquiring" competency of "microbes" have been disclosed by several workers, this work is not far away from that. One such trial was by [6] which had demonstrated the "operation" of "ARA" that showed the action of "nitrogenase" (an enzyme) for "*Azospirillum*" from "wheat roots" in some places in "Korea".

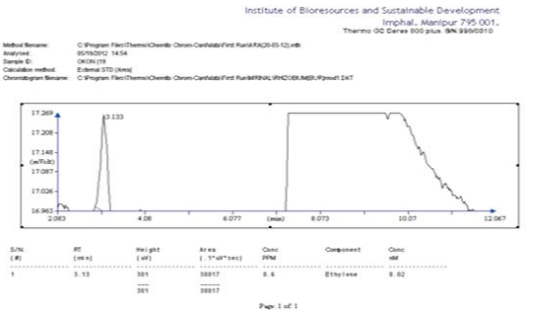

Fig. 1. above is "diagram" of the "ARA" "Chart" for the "Bacterial Type"

* To whom all correspondence should be addressed.
Mob.: +91-9435175669;
E-mail: mantu.bhatt.50@gmail.com

CONCLUSION

For the "kind of bacteria" "N- fulfillment" was sorted out and it showed some result.

ACKNOWLEDGMENTS

We acknowledge O.N Tiwari and his co-mates, director IBSD (Imphal) and DBT (Department of Biotechnology) for their kind help for giving me the opportunity to do that work there at IBSD (Imphal), we thank everybody who helped me during this trial and to my institute and referee for knowledge on this topic. Analogous kind of work for another "isolate" had been already presented by the same researcher for "N-fixing bacterial "variety" in another paper, published as "Elucidating the "Nitrogen fixing Ability for an Isolate Segregated from Tea Rhizosphere of South Assam, India". Published in "IOSR Journal of Pharmacy and Biological Sciences" (IOSR-JPBS), Volume-6, Issue1 (March-April.2013), PP-30-31.Further i acknowledge all. All along concern only for its "nitrogen" "fixability" is done in this paper only. The work is a portion of PhD thesis having the title "Isolation and Molecular Characterization of Free Living Diazotrophs from Tea Rhizosphere of Barak Valley", "Assam (India)" by the same researcher which had been completed at Assam University, so i lay "thanks" for the "institution' Assam University, Silchar. (In thesis of the above said).Though "ARA" was done for another "Okon isolate" which had been submitted in 2015 August month, in "Indian Journal Of experimental Biology' but not been published so far. The "Okon medium" was actually brought in use from source of reference Tennakoon, P.L.K. (2007) [3]. Therefore all were acknowledged.

REFERENCES

1. Dubey, R.C., Biological nitrogen fixation. A Textbook of Biotechnology.S.Chand and Company ltd.New delhi-110 055. 2004; 198-215.
2. Okon, Y., Albrecht, S.L and Burris, R.H., Methods for growing *Azospirillum lipoferum* and for counting it in pure culture and in association with plants. *Appl. And Environ. Microbiol.* 1977; **33**:85-88.
3. Tennakoon, P.L.K., Studies on plant growth promoting microorganisms of tea (*Camellia sinensis* L. (o) Kuntze) Plants. Thesis submitted for partial fulfillment of the award of Master Degree in agricultural sciences in Agricultural microbiology. Department of Agricultural Microbiology. College of Agriculture. University of Agricultural Sciences. Dharwad, 2007.
4. Hardy, R.W.F., Holsten, R.D., Jackson, E.K. and Burns, R.C., The acetylene-ethylene assay for nitrogen fixation: Laboratory and field evaluation. *Plant Physiol*.1968; **43**:1185-1207.
5. Hardy, R.W.F., Burns, R.C .and Holsten, R.D., Application of the acetylene-ethylene assay for measurement of nitrogen fixation. *Soil Biol. Biochem*.1973; **5**:47-81.
6. Kim, C., Kecskes, M.L., Deaker, R.J., Gilchrist, K., New, P.B., Kennedy, I.R., Kim, S. and, Sa, T., Wheat root colonization and nitrogenase activity by *Azospirillum* isolates from crop plants in Korea. *Can.J.Microbiol*.2005; **51**:948-56.