

## The Effect of Homa Emmisions on pH of the Nutrient Medium

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(Received: 01 May 2009; accepted: 06 June 2009)

The present study was aimed to determine the effect of emissions released during the homa on the Microbial media with reference to the effect of homa on pH. The study was carried out at the Homa site, for "Shree Rama Taraka Maha Yoga, Sri Ramachandra Math, Shimoga, from 14<sup>th</sup>-23<sup>rd</sup> April 2006. The results showed changes in the pH of all directions east, west, north, south at a distance of 5m, 10m, 30m, 50m. Experimented on water, liquid medium broth, the nutrient agar plates, and martin raised Bengal agar Plates.

**Key words:** Homa, Potential of hydrogen, Nutrient agar,  
Martin Rosebengal Agar, Bacteria and Fungi.

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Our way of life has intensified the quantum of pollution. No place can be called safe from Pollution. What varies is the type of pollutant and the degree of pollution. Microbial pollution is the most important type of pollution for people in the medical or paramedical field.

Microorganisms are ubiquitous in nature. There are mainly two types, namely non-pathogenic or Saprophytic (harmless and not causing any disease) and pathogenic (disease producing). There are Certain opportunistic pathogens which, given a chance, can produce disease in human beings.

In places where mountains are situated to the south, the south winds that blow are Parching and unhealthy; where the mountains are situated in the north, their northern winds Occasion disorders and sickness...The winds which must pass over mountains to reach cities do Not only dry, but also disturb the air which we breathe and the bodies of men, so as to engender Diseases. Hippocrates, Regimen II, Chapters 37-38 The reactions between water, land and air during the long slow physical evolution of our planet Have greatly affected the course of biological evolution. Manipulating natural resources has Attained the unique capacity to alter

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total environment. While we have begun to express serious Concern for the grim consequences of our role as spoilers in disturbing ecological balances in general, our interest is most avidly focused upon those facets of man-engendered pollution which pose the most immediate and direct danger to us. We live in an ocean of air and each of us is Inexorably required to breathe in at least ten thousand litres of air every twenty four hours just to maintain life in our bodies. Since we are utterly dependent upon the physical and chemical.

Properties of this air, it isn't surprising that we are now deeply immersed in exploring all atmospheric parameters. Characteristically, most of our efforts are devoted to the detection and Control of those toxic particulates and gases contributed to the ambient air by industry and by the multitude of anthropocentric activities which require the combustion of fuel. Their threat to life is Pressing and it is obvious that measures for their abatement must be developed in the immediate future. Other, more subtle atmospheric changes are in progress which, because they are less.

Conspicuous, tends to be put aside for future consideration. Among these one would have to list those phenomena involving small air ions. Abbe Bertholon<sup>6</sup> in addition concluded that the Course of various diseases of man was influenced by atmospheric electricity.

## MATERIAL

### Homa process

The entire experiment was conducted at Shimoga Karnataka India at the site of "Shree Rama Taraka Mahayaga" conducted by Shree Ramachandrapura Math.

### Materials used for the Homa

Ghee, ,Til, Ashwat wood.

### Details of Homa process

Members (Rutvija's)-Pradhana- 1/each kuēōa facing east + 11/ kuēōa ie. 1+11X13 kuēōas =156 members.Ghee/day-900kg/day x 13 kuēōas x 13 days = 152100kg Āhutis-7, 80,000X 13 days = 10140000, pūrēāhuti day- only 1000 ahutisTotal period of yajia-13 days Mantra- Rāma tāraka. Mantra was chanted through out the homa." Sri Rām Jaya Rām Jaya Jaya Rām" Sāñōi Karta-

Bramha- A.

The test organisms are fungi: aspergillus, trichoderma, penicillium, phaenerocheate.

### Bacteria

Azotobacter, ralstonia solanaceium, pseudomonas fluorescense, bacillus megaterium. The experimental materials used in the study were

1. Distilled water.
2. Liquid culture media [Nutrient broth].
3. Solid culture medium [Nutrient agar].Petri plates.

## METHODS

The experimental layout consisted of the study in four directions around the pradhāna kuēōa [Primary glow zone] and 12 upa- kuēōas [secondary glow zones].

The distance of study from the pradhāna kuēōa was 5mts, 10mts, and 30mts.and 50mts. The media was prepared using standard protocols. Different sets of test samples were covered in Poly propylene bags and were exposed to emissions in four directions (Plate 1), north, south, east and west at four different distances, 5, 10, 30, 50m to distinguish the effect of homa at various.

Directions and distances. All treatments were replicated 5 times. A control of all the test samples, Water and liquid media: and solid media were maintained far from the experimental site (at UAS Labs, Bangalore).

The test cultures were isolated using bacterial strains E5T5R1 [1] E2T6R1 E2T6R1G2 E2T6R1G5 E5T5R1 [2] E2T6R1 E5T5R2 [3] - 2T6R1 types of gram-positive cocci. Gram-positive and gram-negative Rods were identified. Fungi were isolated using selective strains and its colony characteristics. The source of strains was obtained from GKVK.UAS LABS.

After an exposure period of 13 days, the pH of all the test samples (brought back to UAS) and controls were noted (using a standard pH meter). The samples were exposed for 10 min during the poornahuti (the final oblation) and the pH was noted.

The data obtained were analyzed using MSTAT software (at the computer center University of Agricultural Sciences-UAS, GKVK, Bangalore, India).

**RESULTS**

These results promise a solution to microbial pollution and bioplastic changes by the Performance of Agnihotra on microbes and liquid medium. The results showed changes in

pH of Water, liquid media broth, the sterile water and media .Exposed to aerosols. This indicates the ion Activity increases or decreases in atmosphere during homa emissions and also reduces the Microbial population with respect to all directions at a distance rate of 50m.

**Table 1.**

Direction	Distance-5m	Distance-10m	Distance-30m	Distance-50m
East direction	6	6	6	6
West direction	6	6	6	6
North direction	8	8	8	8
South direction	6	6	6	7
control	7	7	7	7

**Table 2.**

Direction	Distance-5m	Distance-10m	Distance-30m	Distance-50m
East direction	6	6	6	6
West direction	6	6	6	6
North direction	8	8	8	8
South direction	8	8	8	8
control	7	7	7	7

**Table 3.**

Direction	Distance-5m	Distance-10m	Distance-30m	Distance-50m
East direction	8	8	8	8
West direction	6	6	6	6
North direction	6	6	6	6
South direction	6	6	6	6
control	7	7	7	7

**Table 4.**

Direction	Distance-5m	Distance-10m	Distance-30m	Distance-50m
East direction	8	8	8	8
West direction	8	8	8	8
North direction	6	6	6	6
South direction	8	8	8	8
control	7	7	7	7

## DISCUSSIONS

The changes in the pH of the water exposed to emissions, might be a consequence of ionization potential of the emissions which might have released the cations into the liquid.

### Medium

Increase in pH may be attributed to the cationic emissions of homa while the decrease in pH may indicate lower cationic activity or possibly some anionic activity...Ions are charged particles in the air that are formed in nature [by ultraviolet light or electrical charges in the air] when enough energy acts upon a molecule such as carbon dioxide, oxygen, water, or nitrogen to eject an electron from the molecule leaving a positively charged Ion. The displaced electron attaches itself to a nearby molecule, which then becomes a negatively charged Ion. It is the negative ion of oxygen that affects the most positive ions, which occur in high levels in many indoor environments, inhibit the body's ability to prevent pollutants and contaminants from entering the vulnerable areas of the respiratory tract.

However, an overdose of negative ions has proven to provide counteraction to this effect (Krueger, 1974; Soyka, 1991; Tchijewski, 1960 Air ion formation begins when enough energy acts on a gaseous molecule to eject an electron. Most of this energy comes from radioactive substances in Earth's crust and some from the shearing forces of water droplets in waterfalls (Lenard effect) or the friction which develops when great volumes of air move rapidly over a land mass (for example, the foehn, sharav and Santa Anna winds) or from cosmic rays. The displaced electron attaches itself to an adjacent molecule which becomes a negative ion, the original molecule then becoming positive ions. Molecular collisions transfer the charge, so that positive charges come to reside on molecules with the lowest ionization potential, while electrons are attracted to the species of greatest stability. Next, small numbers of molecules of water vapor, hydrogen and oxygen cluster about the ions to form small air ions. In normal pollutant free air over land, there are 1500 to 4000 ions/cm<sup>3</sup>. But negative ions are more mobile and Earth's surface has a negative charge, so negative ions are repelled from the Earth's surface. Thus the normal ratio of positive to negative ions is 1.2 to 1.

## CONCLUSION

From the above obtained experimented results we can conclude that the agnihotra emits a negative ions which in turn inhibit the growth of bacteria and fungi with different distance and directions which precisely purify the air and also it has the healing effect by controlling the growth of microbes. It indicates there is a bioplasmic change in pH values inhibiting microbes by the combination of homa and sunlight.

### Changes in the pH of water

There was no change in pH in east direction at all distances similarly there was no change in pH in west direction at all distances (pH-6). In the north direction there was an increase in pH from 6-8 and the same pH was recorded at all distances of the study. In south the pH remained 6 from 5-30m but increased to 7 at 50m distance

### Change in the pH of solid Nutrient media

PH changes were observed at all the distances and in all directions compared to control the changes were significant. An increased pH was detected in North and South directions; where as a decrease in pH was observed in East and West.

The pH of water when exposed to the aerosol showed uniform changes (pH 6) except in east direction which recorded a pH of 8 in all directions

### Changes in the pH due to exposure of the agar plates to the aerosols.

The results have shown that in all direction pH of 8 was maintained. But, in north direction pH 6 was recorded at all distances.

The results in the changes of the pH of water, liquid broth and agar plates indicated that there may be an ionizing effect of the emission ratio ion in the north direction while other three directions did not show many variations.

## ACKNOWLEDGMENTS

Gives me immense pleasure to be grateful to, Dr. H.R.Nagendra ,(vice chancellor) ,VYASA For being my guide and encouragement extended to me As parental care and Affection during the course of my study. At this juncture I wish to express my deep sense of gratitude and reverence to Dr. D. RadhaKrishna head,

department of agricultural microbiology, U.A.S, GKVK, Bangalore, for his benevolent guidance, constructive critic's sustained encouragement met out to me throughout the course of this Study. I express my sincere regards to him for this thoughtful guidance coupled With Love and care. It gives me an immense pleasure to be grateful to Dr. Hemangi Jhanbekar for her Help and encouragement during the course of my experimental study

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