



Research Paper

Agnihotra and Homa Therapy for Sustainable Living

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Abstract: Our planet is now contaminated with many types of pollution. Pollution of the atmosphere, the soil, and water resources threatens the whole of life on Earth. Pollution is one of the major issues of our time. Traditional knowledge may provide some answers to the crises which we are facing. Homa Therapy, based on traditional Vedic knowledge, is a possible solution. The basis of Homa Therapy is Agnihotra, a small Homa which is done precisely at sunrise and sunset. It is said to remove the toxic conditions from our environment. But first, we need to evaluate the method in terms of modern science.

In this article we will:

- Describe the method suggested.
- Give an overview of research which has been done on purification of our environment with Agnihotra and Homa Therapy.
- Give some examples of successful farming experiences.
- Summarize some scientific results in the field of agriculture and horticulture.
- Describe a project for rural development, to make villages self-sustainable.

- Outline future prospects for the youth.
- Discuss the impact on our health, taking COVID-19 as an example.

Keywords: Agnihotra, Homa Therapy, Homa organic farming, Pollution, Environmental crisis, rural development, self-sustainability, COVID-19.

Introduction:

Mankind has gone too far and pushed the planet to the edge of the abyss. The atmosphere, water resources and soil are heavily polluted. Biodiversity is being lost at an alarming rate, e.g. a recent study done in Germany showed a decline in insect population of 75% in just 25 years (*Hallmann et al. 2017*).

Agriculture, which has always had the mission to care for and preserve nature, is destroying nature on a large scale. According to information from FAO (Food and Agriculture Organization of the United Nations), now about one third of the world's soil has already been degraded since 1960. And if methods of agrochemical farming would continue till 2050, only 25% of productive land we had in 1960 would remain.

Pesticides are found in soil and water resources.

Now a recent study from Germany shows that pesticides are even found in the air – not just near fields where these pesticides are sprayed but even in areas far away (see: *Kruse-Platz et al. 2020*).

All that shows – we cannot continue with agrochemical farming. (By the way – agrochemical farming often is called “conventional farming” – but only for less than 100 years these agrochemicals are widely used in India; before that all farming was organic since thousands of years, so it is organic farming which is really “conventional”).

So we have to find ways to produce enough yield with organic farming methods. Just leaving pesticides and chemical fertilizers off will not do. We need a method which helps to purify our soils, our water resources, and our atmosphere, as well as control pests and diseases and increase the yields. All that is achieved with Homa Organic Farming which is based on Vedic Knowledge.

Healthy food, healthy environment has to be valued more. Farmers play an important role.

We have to come to a new appreciation for the agricultural sector.

Homa Therapy – of which Agnihotra is the basis – helps in that. It leads to purification of the environment, helps to produce abundant healthy crops and it even improves the health of farmers.

AGNIHOTRA AND HOMA THERAPY

Agnihotra is the smallest and basic Homa healing fire which is performed in a copper pyramid of fixed size and shape, tuned to the biorhythm of sunrise/sunset. It comes from the ancient most Vedic Sciences of Bioenergy, Medicine, Agriculture and Climate Engineering. This knowledge has been revived by Shree Gajanan Maharaj from Akkalkot, Maharashtra last century and taught worldwide by his disciple Shree Vasant Paranjpe (see: *Paranjpe 1989*).

The materials used for Agnihotra consist of the following:

A pyramid shaped copper container of fixed size and shape.

Fire prepared with dried cow dung patties, and an offering to the fire of unbroken rice grains duly smeared with cow's ghee along with chanting of specific Agnihotra Mantras.

When we refer to „AGNIHOTRA“, we mean a specific process of purification of atmosphere through the agency fire done in the following manner:

- ◆ in a copper pyramid of prescribed shape and size, a small fire of dried cow dung and cow's ghee is prepared a few minutes before exact moment of sunrise and sunset.
- ◆ two pinches of raw, unpolished rice mixed with cow's ghee are then added into the fire at the exact moment of sunrise and sunset to the accompaniment of a specific Sanskrit mantra.

The method is described in detail in the Annexure.

Homa Therapy is the use of Agnihotra and Agnihotra Ash plus certain other simple Yajnyas in applications like purification of the environment, farming, and medicine.

PURIFICATION OF OUR ENVIRONMENT WATER

Several reports show that Agnihotra Ash helps to purify water (*Gerlecka 1988, Matlander 2013*, etc.). When you add Agnihotra Ash, you have a combination of chemical and of physical effects which lead to the effect of purification.

Raw water (non-potable) became potable (results matched with standards given by WHO Guidelines for Drinking-water Quality) after the treatment with Agnihotra ash. Polluted water from Mula – Mutha River in Pune was passed through a column of Agnihotra ash. There was significant reduction in:

Table 1. (Abhang et al, 2015)

Conductivity	- 48%
Total solid content	- 90%
Hardness	- 84%
Biological oxygen demand	- 48%
Chemical oxygen demand	- 7%
Most probable number	- 98%
Standard plate count	- 93%

Purification of Water with Agnihotra

Polluted water from the Narmada River was kept in glass bottles in an Agnihotra room (where Agnihotra has been performed since several years regularly at sunrise and sunset and where apart from the mantras related to Agnihotra no word is spoken).

Results showed that after a period of five days the count of coliform bacteria was reduced by approx. 70% compared to

control (same water kept in the laboratory during these five days).

Energy Field of Agnihotra in Purification of Water

We know that Faraday Cages shield electromagnetic waves. Therefore if the effects of Agnihotra on water are (partly) based on some electromagnetic waves, then there would be no (less) change in the parameters of water quality if this water is kept in such Faraday cages.

Water was taken from the Narmada River and filled in glass bottles. Some of the bottles filled with water were put in containers made of stainless steel, copper, and aluminum respectively. Then the metal containers were closed with a tightly fitting lid in order to provide Faraday cages.

Other bottles filled with the same water from Narmada river were kept in the Agnihotra room without metal containers.

Table 2. Improvement of water sitting next to Agnihotra

Percentage changes as compared to control:					
	DO	pH	C.O.D.	Hardness	Coliform /100 ml
	Average	Average	Average	Average	Average
Average All	195%	-21%	-63%	-52%	-69%
Average (Stainless Steel)	233%	-21%	-62%	-50%	-68%
Average (Copper)	173%	-23%	-66%	-53%	-69%
Average (Aluminum)	158%	-17%	-66%	-51%	-70%
Average (All metals)	188%	-20%	-65%	-51%	-69%
Average (All glasses)	203%	-22%	-60%	-52%	-69%

After five days all water samples were examined for DO (dissolved oxygen), pH, COD (chemical oxygen demand), hardness, and count of coliform bacteria.

All parameters tested showed significant improvement. These results show that:

- Agnihotra atmosphere helps to purify water

b) This effect of purification occurs whether or not the water samples are kept in Faraday cages.

This shows that the Agnihotra Energy field extends beyond the electromagnetic range as electromagnetic fields are shielded by Faraday cages such as these metal containers. (High energy electromagnetic radiation like X-rays etc. would go through – but that has been excluded in another experiment.)
(*Berk/Sharma 2015*)

SOIL

Only in the past few years has agricultural science paid more attention to soil health. But already approximately 1500 BC a Sanskrit text stated:

„Upon this handful of soil our survival depends. Husband it and it will grow our food, our fuel, and our shelter and surround us with beauty. Abuse it and the soil will collapse and die, taking humanity with it.”

It seems that we are now heading towards such a situation of soil collapsing. According to information from FAO (Food and Agriculture Organization of the United Nations), now about one third of the world's soil has already been degraded since 1960. And if methods of agrochemical farming would continue, till 2050 only 25% of productive land we had in 1960 would remain – not possible to feed a growing number then.

It is necessary to rejuvenate the soil, improve the quality of degraded soil. For that Homa Farming techniques are a wonderful tool. Different types of microorganisms are activated, starting from the level of viruses, bacteria, fungi, algae. Thus a healthy micro-flora and micro-fauna is created.

A study done in Gogate College, Ratnagiri, Maharashtra, India, examined the effect of Agnihotra Ash on farm soil. Four soil samples were taken and initial microbial count was done. Then 1% of Agnihotra Ash was added to the soil

samples. One week later microbial count was taken again. Addition of Agnihotra Ash resulted in increase in the overall bacterial flora, including the effective bacteria i.e. nitrogen fixers and phosphate solubilisers while reduction in the fungal flora was seen. (*Berde /Kulkarni 2015*)

The result was that beneficial microbes are thriving: The count of nitrogen fixers was seen to increase 100 fold while that of phosphate solubilisers was 1000 fold, and at the same time harmful fungal flora was kept under control.

Improvement of Sodic Soil

In 2006 a trial was taken at Virendra Kumar Singh Krishi Vignan Kendra, Virendra Nagar, Dhaura, Dist: Unnao, U.P., India.

The soil pH was tested before plantation and after harvest of wheat crop.

Wheat was planted in 3 plots:

1. with agro-chemicals
2. with vermicompost
3. with vermicompost + Agnihotra Ash

Soil pH before plantation was 9.86

Table 3. Effect of Agnihotra Ash on pH of alkaline soil

Soil Treatment	pH
with agro-chemicals	9.86
with Vermicompost	9.06
with Vermicompost + Agnihotra Ash	7.67

After harvest the soil pH in the field which was treated with Vermicompost + Agnihotra Ash showed significantly lower

pH of 7.67.

Improvement of Acidic Soil.

On a farm in Southern Poland soil was tested by the agricultural department with a pH of 4.4, extremely acidic. The agricultural engineers told that nothing will grow there.

Agnihotra and Homa Organic Farming were started and in spite of what the

agricultural engineers said they got good results growing all different types of vegetables just by using Agnihotra and Agnihotra Ash.

There is a good yield of vegetables and the taste, texture, weight and quality are superior. Also the quality of the soil has improved - recent test showed a soil pH of 7.2.

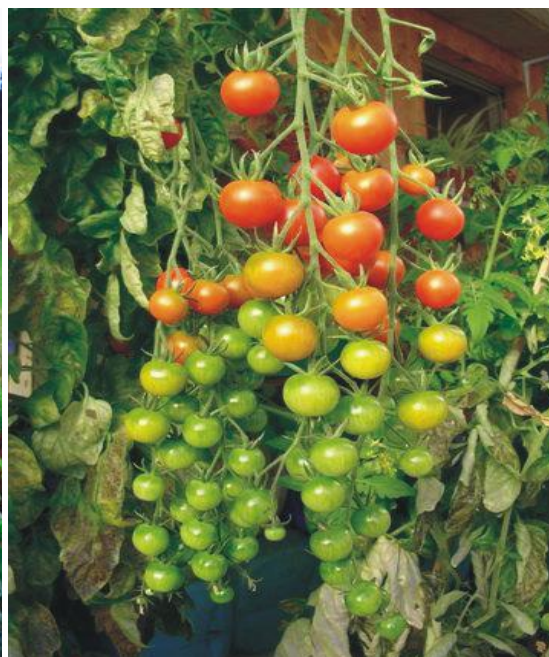
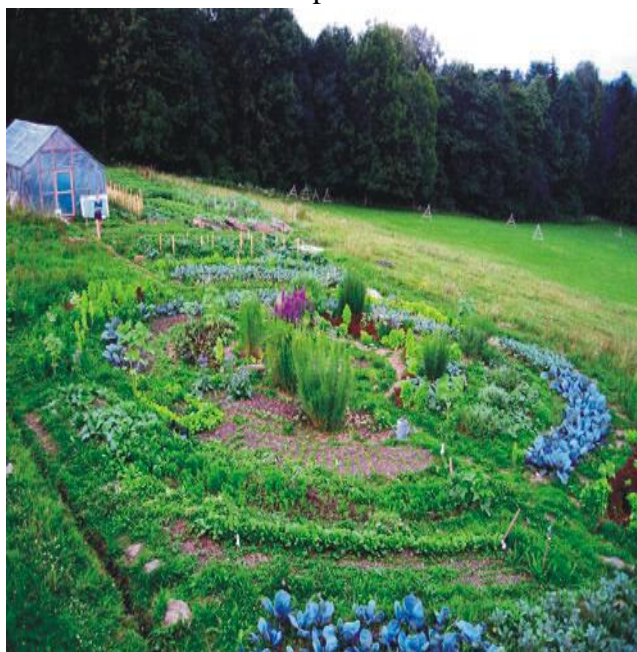


Figure 1. Vegetables grown at the Homa Farm of FundacjaTerapiaHoma, Poland

ATMOSPHERE

Nutrition through Atmosphere

Modern agricultural sciences speak of soil analysis and water analysis but hardly about the atmosphere. Ancient science of HOMA Therapy states that more than 75% of nutrition to plants and soil comes through the atmosphere. If atmosphere is polluted leaves are getting damaged. This makes plants more vulnerable to pests and diseases. Photosynthesis is reduced, growth is reduced, and yields go down. Agnihotra purifies the atmosphere from biological, chemical, and physical air pollution. Hence Agnihotra is a great benefit to agriculture.

Microbes in Air

Several studies were done showing a considerable reduction of microbial load in air (Pathade and Abhang 2014, Kumari/Punam 2015, Abhang et al 2015).

The following experiment was performed at Ferguson College, Pune, India. Agar plates exposed to Agnihotra showed a tremendous reduction in hemolytic colonies. Microbial contamination was observed to be higher (70cfu /plate) in non-Agnihotra room as compared to Agnihotra room (23 cfu/plate).

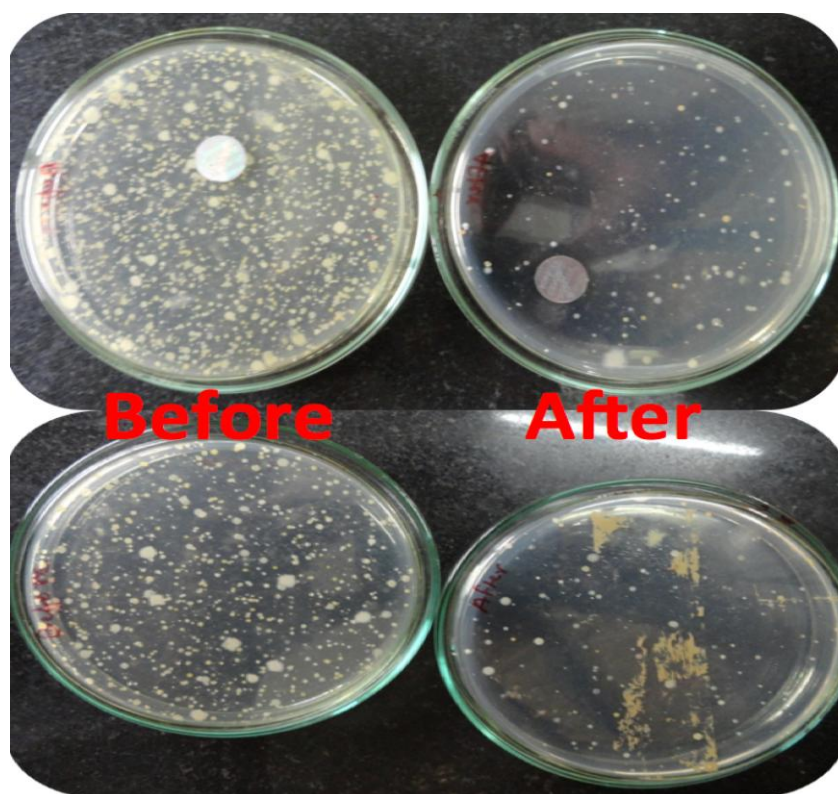


Figure 2. Microbial contamination on agar plates before and after Agnihotra

The average microbial colony count in surrounding air was 70% less after Agnihotra than before Agnihotra.

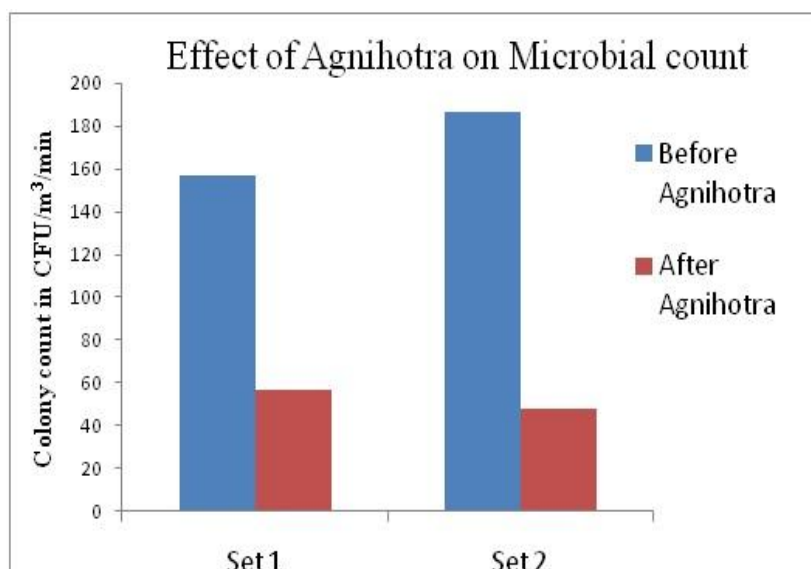


Figure 3. Effect of Agnihotra fumes on Microbial Count in Surrounding Air

Chemical and Physical Air Pollution

A series of experiments was conducted recently at Vikram University, Ujjain, M.P. and at North Maharashtra University,

Institute of Environmental Sciences, Jalgaon, MH. They tested the chemical compounds SO_x and NO_x which are produced by any form of combustion, and

the levels are getting alarmingly high especially in cities because of all the cars with combustion engines. Also these experiments measured physical pollution, i.e. particle pollution. See the results:

Ambient Air Quality Report
Values are in $\mu\text{g}/\text{m}^3$; Sampling Period: 30 min

Table 4. Reduction of chemical and physical air pollution through Agnihotra

Date	Time		SO _x	NO _x	RSPM	SPM
28/03/2016	5:15 to 5:45	Before Homa	7,9	27,3	105	69
28/03/2016	6:30 to 7:00	During Homa	6,2	23,7	75	63
28/03/2016	7:00 to 7:30	After Homa	8,3	29,1	152	83
29/03/2016	10:30 to 11:00	15 hrs after Homa	5,6	21,9	56	47

- SO_x: Sulphur Oxides
- NO_x: Oxides of Nitrogen
- SPM: Suspended Particulate Matter (particles floating in the air)
- RSPM: Respirable Suspended Particulate Matter (particle size equal or less than 10 micrometres – these small particles can go deep into our respiratory system).

The sampling was done with a high-volume air sampler which sucks in the air and then presses it through a filter. Particles are stuck in the filter, depending on the filter specifications.

Although the values go up a little bit after Agnihotra (which is to be expected as the smoke of Agnihotra fire creates some level of SO_x, NO_x, as well as some particles), after some time all values go down well below the levels we had before Agnihotra. That means Agnihotra purifies our air also from these chemical and physical pollutants. The experiments were done both at sunrise and at sunset in order to rule out any effects of normal variations between day and night.

Reduction of Multi Drug-Resistant Bacteria

Sterile water was inoculated with multidrug-resistant (MDR) *Escherichia coli* isolated from contaminated water. Nine sterile bottles with sterile water were inoculated with MDR *E. coli* suspension making bacterial load of 1.5×10^8 CFU/ml. In the first set of three bottles Agnihotra ash was added, followed by control ash in the second set of three bottles and third set of bottles was control (which did not contain any form of ash). The bottles were incubated at room temperature. Following 24 hours of incubation, each of the bottles from each set was used for bacterial count and load estimation by membrane filter method and Most Probable Number (MPN) method.

Table 5.

Treatment	1day (MPN/100ml)	3 days (MPN/100ml)	5 days (MPN/100ml)
Agnihotra ash	2400	210	<3
Control ash	2400	2400	93
Control	2400	2400	2400

For more details see *Tuladhar et. al. 2019*

The world's worst industrial accident occurred in Bhopal, M.P. on the night of 2-3 December 1984.

Methyl Isocyanate (MIC) gas leaked sometime in the midnight from Union Carbide Factory in Bhopal.

Thousands of people died and many thousands more were seriously injured. However, all those performing daily Agnihotra in Bhopal were safe. Agnihotra proved a very protective armour for all of them.



Figure 4

AGNIHOTRA HELPS EVEN IN MAJOR DISASTERS

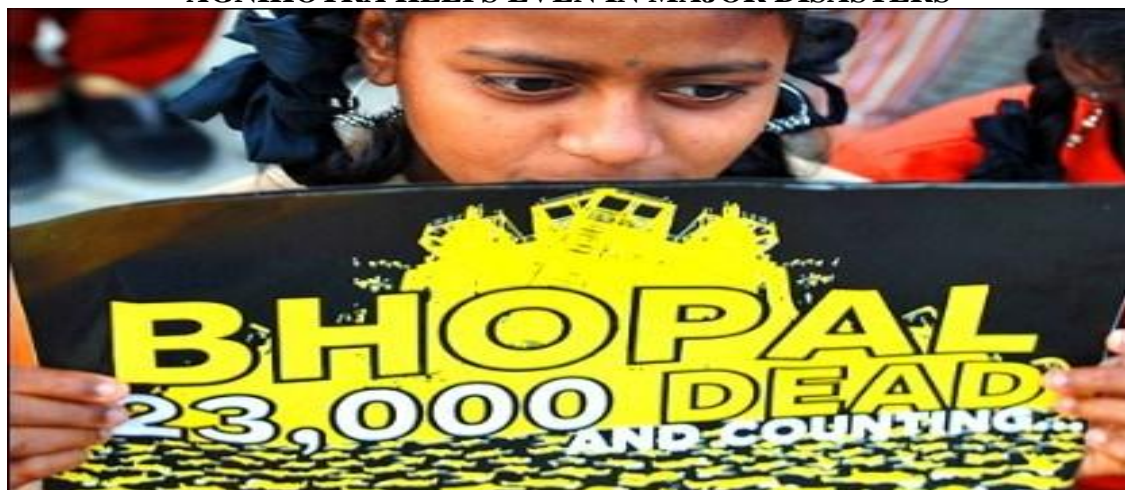


Figure 5. „The Hindu“ 1985

SUCCESSFUL EXPERIENCES

Homa Organic Farming first came to prominence in the 1990s in several countries of South and Central America where farmers had come into great difficulties due to a fungal disease in the banana plantations. Panama disease, otherwise known as Black Sigatoka, was decimating the banana and plantain crops which are the backbone of the economies of many of these countries. This leaf fungus attacks banana and plantain crops, and has destroyed thousands of acres in Peru, Venezuela and Colombia. Stronger and stronger fungicides have been used to

FARMING

fight the disease, and some success has been achieved for a while. But eventually a point is reached when the only chemicals capable of killing the fungus are also deadly to man. Hundreds of farmers in South America have abandoned their farms due to the devastation caused by this disease.

Shree Vasant Paranjpe, the father of Homa Organic Farming, who travelled many times to these affected countries during the 1990s, was tireless in his efforts to demonstrate that this ancient method of organic farming (also known in India as Vruksha Ayurveda) could completely

eradicate this disease from the banana plantations in these affected countries.

By the late 1990s reports began to surface about the miraculous results which were being achieved with Homa Organic Farming on banana and plantain as well as many other crops.

3000 ACRE PROJECT

Then in 1999 we received a stunning report from the Ministry of the Presidency

All modules featured an integrated system of perennial crops such as plantain, bananas, papaya, cocoa, citrus, avocados, coffee, tea, star fruit, mango, etc, together with annual crops of short vegetative cycle such as rice, corn, soya bean, nuts, sesame, etc, complemented with apiculture and cattle rearing. The engineers reported substantial rejuvenation of all crops, due to reduction of different pathogenic agents. 'As a consequence, all plagues and diseases were eradicated, the yield of the harvest increased, the fruit grew healthy, with better color, taste, weight, texture, etc.'

Cardenas 1999

After seeing these successful results with Homa Farming from South America some farmers in India became interested in using the technology. One such farmer was Abhay Mutalikdesai from Belgaum, Karnataka.

VANILLA

In 1999 Abhay Mutalikdesai initiated Homa Organic farming on his farm in Sutakatti, District: Belgaum, KA. Since then he has achieved some spectacular

of the Republic of Peru. It documented a special project undertaken in the Alto Huallaga region of Peru in which Homa Organic Farming was applied to 30 modules, each of 100 acres (3,000 acres in total). They were monitored for a period of 7 months by agricultural engineers from the Ministry of the Presidency (*National Institute of Development*).

Figure 6. Original report in Spanish.



results and has since been awarded 'Krishi Pandit' by Govt of Karnataka.

For several years he grew vanilla on his farm (photo below). In the year 2000 he got his vanilla tested at Spice Board Evaluation Laboratory, Cochin, Kerala. His processed vanilla beans recorded a Vanillin content of 2.91%, the highest in India that year.

Then in the year 2004, in Vanilla oil, he got his vanilla oil tested by CO2 extraction method at Central Food Technological

This shows that in Homa Farming important nutritional parameters are increased, in some cases quite drastically.



Figure 7. Mutalikdesai 2011



In 2001 a Homa Organic Farming project in soya bean began near Dewas, District: Indore, MP in cooperation with Prestige Feed Mills, Indore. Homa Therapy volunteer, Karin Heschl from Austria, and her two children stayed on the Dewas farm for the entire season practicing Agnihotra and Om Tryambakam Homas.



Figure 8

- Using agro-chemicals the yield from the Prestige farm in the previous year was 350 kg per hectare. Using Homa Organic Farming techniques the yield in the current year was 1,800 kg per hectare.
- Other farms in the area averaged 700 to 800 kg per hectare. Nearest best result was 1,200 kg per hectare.
- Beans from Prestige farm were of superior colour. Roots of the plants from the Prestige farm bore twice the number of nitrogen-fixing nodules as those from the neighbouring farms.

- Profit in conventional agro-chemical farming was Rs 1,254 per bigha (Rs 4,702 per hectare) or 96.7%. Profit in Homa Organic farming was Rs 2,854

per bigha (Rs 10,702 per hectare) or 232.8%.

Heschl 2009

MANGO

Ramesh Chandra Tiwari, Village: Khanpur Sirauli, Block: Hasanganj, Dist: Unnao, UP has a 3 hectares mango garden (variety – Dasher, Lucknow Safeda and Chousa),

In 2010 I achieved a record production of 120 tonnes (40 tonnes per ha). In nearby areas the mango yield is much less as compared to my farm (average 10 tonnes per ha). With all the known techniques using agro-chemicals it can be extended up to 14 tonnes per ha.



Figure 9

Year	Tonnes per ha	Total Production
2005-06	10	30
2006-07 (off year)	13.3	40
2007-08	21.7	65
2008-09 (off year)	0.7	2
2009-10	40	120

Table 6. Tiwari 2009

COTTON

Report from Bruce Johnson (Australia),
Tapovan Homa farm, Village
Ratnampimpri, Taluka: Parola, District:
Jalgaon, MH

In 2006, the farmers of Khandesh region reported massive attack of the Bronze wilt fungal disease known locally as "Lalya". Lalya seems to attack only some varieties of Bt cotton. Lalya causes

an initial reddening of the leaves, then the whole plant turns red and after a few days it completely dries up and dies. In the farms surrounding Tapovan as many as 50% now show signs of Lalya wilt. Some farmers have already removed their cotton and are preparing their land for the next crop. This results in a massive economic loss to the farmers who are already in serious financial difficulty.



Figure 10. Neighboring Bt Cotton attacked by Lalya disease



Figure 11. Tapovan Homa Cotton – no pest problems

On the other hand in Tapovan we have sown non Bt American hybrid cotton, Ankur 651. The plants are smaller in height than the Bt varieties but a count of the number of cotton bolls per plant compares very favourably with the Bt varieties. Bt plants are normally much bigger in size but this does not necessarily translate into more bolls per plant. On some farms we have counted an average of only 50 to 60 bolls per plant. In Tapovan we get an average of up to 80 or 90. This success is due to Homa Organic Farming technology and the use of Homa Biosol biofertilizer. (Johnson 2009)

Homa Farm 'Fuente De Alegría' Vinces, Ecuador

Eng. Hernan Posas has a 100 ha banana plantation which is in Transition from conventional to organic agriculture with Homa Technology.

The statistics below compare the years 2005, 2006, 2007 and 2008. In 2008, with the practice of Homa Farming Technology, we observe (left) an increase in the weight of the banana bunches and (right) an increase of the banana clusters per bunch. That means bigger bananas and more bananas with Homa Farming Technology in such a short time.

BANANA

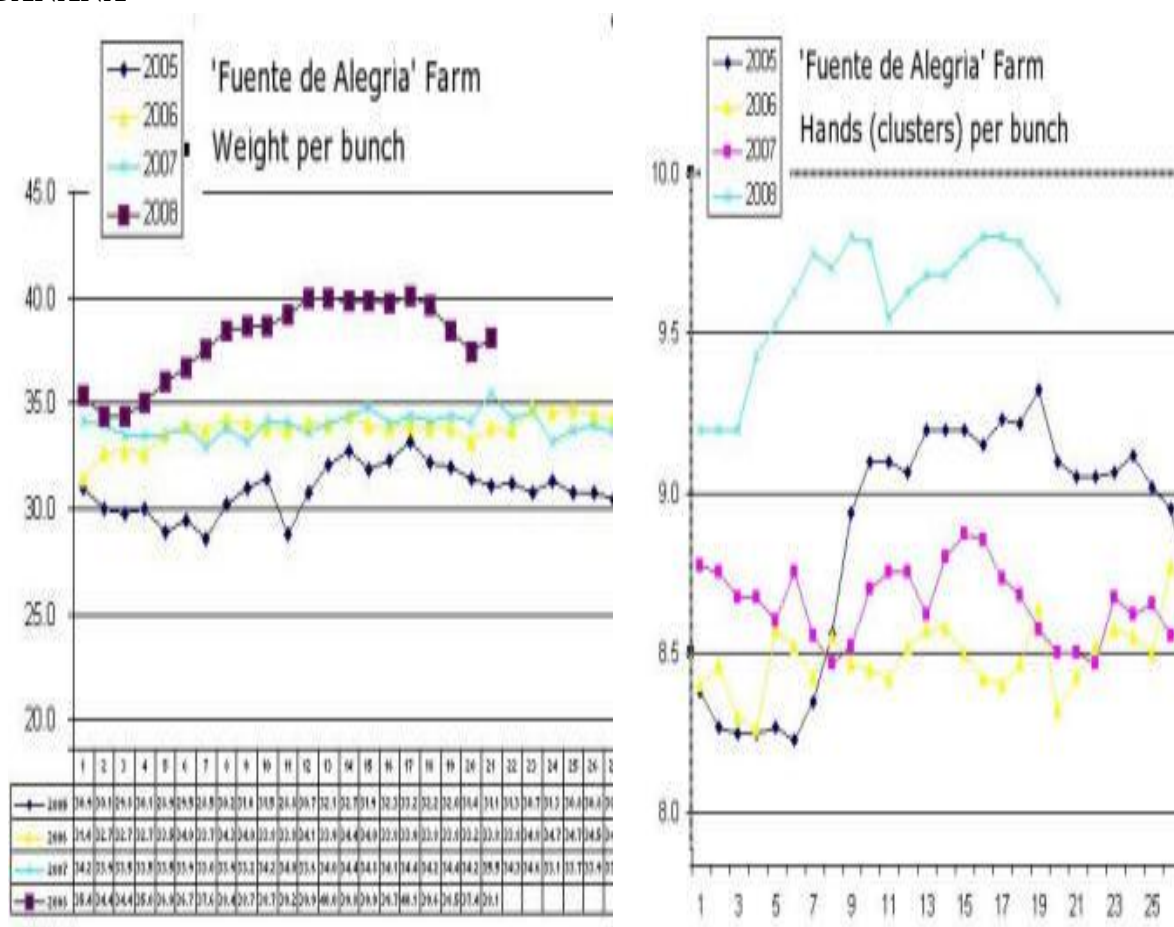


Figure 12. Posas 2008

SOME SCIENTIFIC RESULTS

Fungal Disease in Banana Crops

Agnihotra makes plants stronger and more disease resistant. The first systematic studies on disease control were done approximately 20 years ago in Peru, South America. A fungal disease, Black

Sigatoka, affected banana plantations on large scale, destroying up to 90% of the crops. According to reports of government engineers in Peru, Black Sigatoka infection was totally eradicated on farms where Agnihotra was practised.

Without HOMA Therapy	After 4 months of HOMA Therapy
Producing small bunches	Uniform rejuvenation in the whole Banana & Plantain Plantation
Minimum production	Bunches are much bigger and heavier with an average of 120 bananas per bunch
70% fungi fusarium	No plagues; no diseases
40% Mucus pseudomonas solanace	
87% Black Sigatoka	8 to 10 healthy leaves per plant at the time of harvest
87% Yellow Sigatoka	
Each plant gave an average of 6 to 7 off-spring, most of which are not fit for propagation	17 to 20 productive off-spring
Production cycle - 8½ months	Productive cycle - 6 months

Figure 13. Morales 1999, Berk 2017

Yield in Lemongrass

The first systematic study on Homa Organic Farming in India was done in the CSK Agricultural University in Palampur, Himachal Pradesh. They studied the effect of organic nutrients including Agnihotra Ash on lemongrass, marigold and aloe vera.

In lemongrass, the highest yield (7833 kg per hectare) was obtained in the treatment with organic manure + Agnihotra Ash + sowing according to the moon calendar.

It was clearly demonstrated that in lemongrass, Agnihotra Ash was significantly superior to other organic treatments."

Organics	Fresh Yield (kg/ha)					
	First year			Second year		
	MP	NMP	Mean	MP	NMP	Mean
Organic manure* (OM)	4,667.00	4,083.00	4,375.00	5,137.00	3,603.00	4,370.00
OM+Neem	4,583.00	4,417.00	4,500.00	5,253.00	3,998.00	4,626.00
OM+Agnihotra ash	7,853.00	7,467.00	7,660.00	7,278.00	5,883.00	6,581.00
OM+Himbio+Bt	7,292.00	7,000.00	7,146.00	6,025.00	5,200.00	5,613.00
OM+BD500	6,754.00	6,500.00	6,627.00	5,581.00	5,069.00	5,325.00
Control	4,000.00	2,833.00	3,417.00	3,389.00	3,193.00	3,291.00
Mean	5,858.00	5,383.00		5,444.00	4,491.00	

Table 7. Punam et al 2012

Yield and disease resistance in Potato

Further systematic research has been done at the Institute of Commercial Horticulture, Tamil Nadu Agricultural University, Ooty, Tamil Nadu, India. Yield, quality of the produce, and disease

resistance of various horticultural crops were examined, comparing:

- Organic farming system
- Organic farming system + Agnihotra
- Conventional farming
- Absolute control

Yield and the incidence of late blight disease were examined in potato.

Organic treatment plus Agnihotra recorded higher performance for yield (9.6

t/ha) and showed increased disease resistance also.

Treatments	Late blight (%)	Yield (t/ha)
	90 days after planting	
Organic	45	8.4
Organic+Agnihotra	11	9.6
Conventional	65	4.2
Absolute Control	80	2.5

Table 8. Selvaraj et al 2009

Disease resistance in Rose

Flowers are normally grown in greenhouses, and because of high humidity fungal diseases are quite common. Several

flower species were studied, including rose, carnation, gerbera.

In the case of rose the study showed that Agnihotra can control one common fungal disease, powdery mildew.

Treatments	Powdery mildew (<i>Spaerotheca pannosa</i>) (%)
Organic	4.4
Organic+Agnihotra	2.9
Conventional	12.3
Control	25.9

Table 9. Selvaraj et al 2009

Yield and quality in Rose

Also in the case of Rose, Organic farming with Agnihotra recorded higher performance for fresh flower weight, stalk

length, flower diameter, number of flowers/plant/year, shelf life compared to other treatments.

Treatments	Fresh flower wt/ plant (g)	Stalk length (cm)	Flower diameter (cm)	No. of flowers/ plant/year	Shelf life of flowers (days)
Organic	19.54	85.59	6.81	26.54	14
Organic+Agnihotra	21.34	88.98	7.54	28.80	16
Conventional	12.98	75.98	5.54	16.70	3
Absolute Control	8.65	67.23	3.54	12.65	1.5
CD at 5%	0.85	2.95	0.55	1.25	-

Table 10. Selvaraj et al 2009

Yield and Morphological Characteristics in Horticultural Crops

Some studies were done at University of Agricultural Sciences, Dharwad, Karnataka, India on agricultural and horticultural crops – Soya Bean, Tomato,

Cabbage, Okra. The studies showed asinificant increase in yield parameters and considerable improvement in morphological characteristics of the four crops.

Yield and Morphology Comparative Results: Homa vs non-Homa			
Soya bean		Cabbage	
	Increase with Homa		Increase with Homa
Total biomass per plant	28%	Plant height	40%
Straw yield	26%	No of leaves per plant	23%
Grain yield	26%	Leaf area	13%
100 seeds weight	17%	Surface area of cabbage head	86%
Nodule count per plant	180%	Dry matter production	18%
Nodule dry weight per plant	172%	Yield per acre	15%
Tomato		Okra	
	Increase with Homa		Increase with Homa
No of fruit per plant	33%	Plant height	39%
No of leaves per plant	25%	No of leaves per plant	60%
Dry matter production	25%	Fruit weight	109%
Yield per plant	43%	Shelf life	125%
Yield per hectare	43%	Yield per hectare	28%

Table 11. Kumari 2010, Brunda 2011, Hattalli 2011, Kumar 2017

The development of root nodules in soybeans.

In Soya Beans and other leguminous plants, root nodules extract nitrogen gas from the atmosphere and make it available to the plants. When these plants die, the remaining nitrogen remains in the soil, thus improving soil quality and helping

growth of plants in the next season. This is of great importance as nitrogen is often the limiting nutrient. How Homa Organic Farming (including the use of Homa Biosol) helps with the formation of root nodules becomes evident from the following photos.

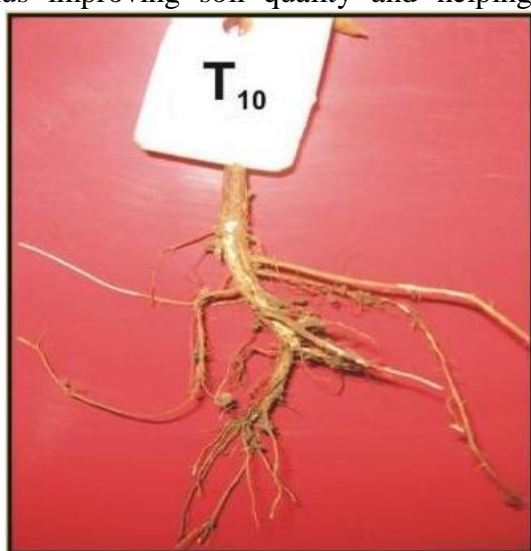


Figure 14. Control without Homa
 Kumari 2010

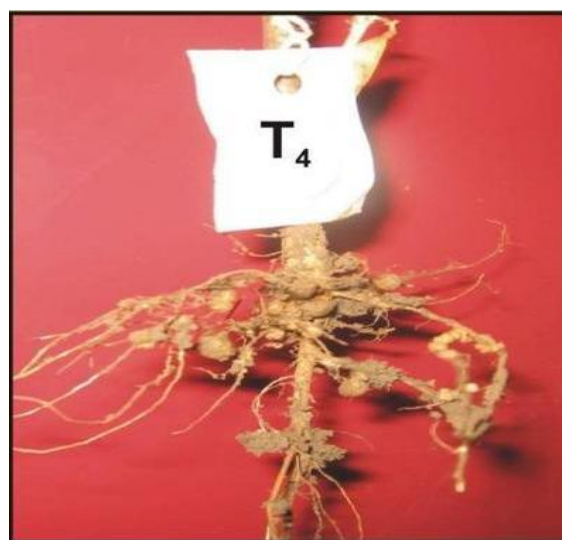


Figure 15. Nodules with Homa

Control of Pests and Disease in Horticultural Crops

These results come from the same studies at University of Agricultural

Sciences, Dharwad. They show significant reduction in pest infestation and in diseases.

Pests and Diseases			
Comparative Results: Homa vs non-Homa			
Soya bean		Cabbage	
	Decrease with Homa		Decrease with Homa
Rust	16-29%	Black Rot	29-55%
Pod borer	18-43%	Black Spot	39-73%
		Head borer	18-69%
		Diamond Back Moth	25-64%
		Spodoptera litura	40-62%
Tomato		Okra	
	Decrease with Homa		Decrease with Homa
Alternaria leaf spot	37%	Powdery mildew	19-36%
Insect attack	40%	Alternaria leaf spot	30-57%
		Fruit borer	16-38%
		Spodoptera litura	48-68%

Table 12. Kumari 2010, Brunda 2011, Hattalli 2011, Kumar 2017

Food Quality

Homa Farming has a positive effect on the nutritional value also. These results come from the same four studies at

University of Agricultural Sciences, Dharwad mentioned above.

Nutritional Value			
Comparative Results: Homa vs non-Homa			
Soya bean		Cabbage	
	Increase with Homa		Increase with Homa
Protein content	5%	TSS (Brix)	39%
Oil content	9.5%	Ascorbic acid	11%
β-Amylase (seeds)	35%	Total free phenols	18%
β-Amylase (after germination)	66%	Protein content	16%
Invertase (seeds)	45%	Nitrogen content	19%
Invertase (after germination)	100%	Sulphur content	71%
Tomato		Okra	
	Increase with Homa		Increase with Homa
Ascorbic acid	49%	Ascorbic acid	0.5-34%
Lycopene	40%	Total free phenols	2-8%
Total free phenols	7%	Nitrogen content	3-28%
TSS (Brix)	10%	Phosphorus content	4-58%
		Potassium content	45-98%

Table 13. Kumari 2010, Brunda 2011, Hattalli 2011, Kumar 2017

NOAH'S ARK PROJECTA Project ForRural Development, Make Villages Self-Sustainable

A Noah's Ark project is a special case of a Resonance Point. A group of farmers who want to become organic or who are already organic join hands to create a complex of farms on an area up to 200 acres where a Resonance Point has been established. The farms may be owned by different farmers but they must be contiguous, i.e., touching each other. No agro-chemicals should be used within the 200 acre area.

By practice of Homa organic farming, nutrients are injected into the atmosphere and this becomes the antidote to acid rain, ozone holes, radiation coming from the bowels of the earth, etc. Based on practical experience gained in the Amazon region of the Republic of Peru, South America, a model for future farming has been developed which will promote food security at the village level.

Noah's Ark Project comprises five components:

1. Establishment of a Resonance Point in 200 acres

With Homa organic farming we can get nearly double the yield per acre of sunflower, safflower, soya bean, and pigeon pea, as compared to any method known to modern science. Sorghum and maize yield about one and a half times the normal crop. There is not only an increase in per acre production but also a saving of cost per acre. The farmers maintain their own seed bank for the next season's crops. This will create an Evergreen Revolution for village level food security.

2. Maintaining 24 hour round-the-clock Om Tryambakam Homa for Total Healing

Due to Homa going on round-the-clock the place becomes healing for humans, animals and birds. People can sit in this area and they will get

healed. Various psychiatric problems, mental tension, hyperactivity in children and adults, schizophrenia, autism, etc. can be cured without medicines simply by being in this atmosphere of round-the-clock fire and Mantras.

3. Cattle Breeding

A herd of approximately 50 cows, bulls and calves is maintained which will supply all the cow dung and ghee required for maintaining Agnihotra and the 24 hour round-the-clock Om Tryambakam Homa. For that, at least 30 acres out of the 200 acres will be set aside for fodder. A successful breeding program of pure breeds will provide a good income for the project.

4. Vermicompost + Homa Biosol bio-fertilizer

Vermicompost plus Homa Biosol bio-fertilizer will enhance soil fertility. This bio-fertilizer section can be set up alongside the cattle complex. Biosol is superior to any other bio-fertilizer available in the market. Ten by one thousand litre tanks will produce three thousand litres of Homa Biosol per month. Excess production can be marketed to other interested organic farmers. The aim is total self-sufficiency within the 200 acre Resonance Point.

5. Promoting Agnihotra ash folk medicines in the neighboring villages

Twenty to thirty villages will be selected in the area surrounding the two hundred acre project. Homa Therapy volunteers will visit each of the villages, in turn, starting women's healing circles. The villagers will be taught how to make simple folk medicines from Agnihotra ash as developed in

Germany and how to use these medicines on the psychosomatic level to cure even long term diseases which pharmaceutical medicines were unable to cure. Agnihotra ash medicines are always given free of charge.

All infrastructure costs for the Resonance Point, cattle complex, vermicompost, Homa Biosol and cow breeding program could be recovered in four years taking into account only the increase in per acre production and saving of cost per acre. A portion of the profit is kept aside as a Rotating Fund. After four years this money could be given to another group of farmers for setting up the infrastructure for another Noah's Ark Project.

The Noah's Ark model will eventually become self-sustaining.

1. Cows are an essential part of any Homa farm. The establishment of the Goshala (cow sanctuary) will give the raw materials necessary for the performance of the Homas; And along with vermiculture the necessary raw materials for bio-fertilizers for the food and medicinal crops.
2. Successful cattle breeding program will provide a good source of income.
3. After establishment of the Resonance Point infrastructure, Agnihotra will be performed daily along with some hours of Om Tryambakam Homa which will be increased gradually up to 24 hours a day round-the-clock. After about 3 months the place will reach full energy potential and be a sanctuary of total healing.
4. Weather patterns will again stabilise due to the effect of the Homas in resetting the natural energy cycles, leading to nutritious and timely rains. Crop yields will increase due to the performance of

the Homas and use of Agnihotra ash and Homa Biosol. The seed bank will make the agricultural sustainable. The idea is to minimise external inputs to the point where they can be eliminated altogether.

5. Good crop yields will lead to an economy of abundance, replacing the present economy of scarcity.
6. The rest of the village will observe the successful progress of the project in giving security, economically, socially and health-wise. More farmers from the village will opt to form Noah's Ark cooperatives.
7. By promoting Agnihotra ash medicines in the surrounding villages news will spread about the success of the project and more villages will also want to implement the project. Like this it can spread from village to village throughout the whole country.
8. Farmers will achieve independence from banks and the suicidal debt spiral will cease. Farming again will become a prosperous occupation. Poverty can be totally eradicated. Farmers' children will no longer want to abandon the farm searching for work in the city. This will lead to a complete social revolution.

AGNIHOTRA AND HEALTH

We have seen how Agnihotra can help to purify our environment, to come back to a way of gardening and farming which is in tune with Nature, and thus lays the foundation of a self-sustainable village development. Nature comes back to Harmony – but more than that, also Human Health is positively affected. Performing Agnihotra has an immediate effect on people's mind. Stress and anxiety are reduced, and the mind gets a push in the direction of happiness and love. Many diseases have been healed by Agnihotra and the application of Agnihotra Ash (see:

homahealth.com). Here we want to just mention one example because of the special importance at the moment – how can Agnihotra help in this Covid-19 crisis.

It seems there are three ways how Agnihotra could help:

- 1) Reducing the probability of getting infected.
- 2) Reducing preexisting conditions thus leading to a less severe course of Covid-19.
- 3) Supporting the body to overcome the infection.

Reduced probability of getting infected

Covid-19 can be transmitted if someone touches surfaces which an infected person had touched before like door handles etc. But more important is the transmission through aerosols which carry the virus – respiratory droplets created by infected people who cough or sneeze, and also mini droplets which are formed by people just breathing or talking. (See: <https://www.ccn.com/japan-scientists-find-new-transmission-route-of-coronavirus-in-breakthrough-study>.)

Studies show that Agnihotra reduces such aerosols or particulates in the air. As viruses (as well as bacteria) attach to aerosols there will be less viral load in the

air if particulate matter is reduced. This maybe explains why in areas with high air pollution severity and lethality of Covid-19 is increased (<https://edition.cnn.com/2020/04/07/health/covid-19-air-pollution-risks-wellness/index.html>)

Reducing preexisting conditions

Most people who get Covid-19 only have mild symptoms, no big health issue. But the disease is more serious and deaths mostly happen in certain risk groups, like with people who suffer from pre-existing conditions like:

- Heart Diseases and high blood pressure
- Chronic respiratory disease like asthma
- Diabetes
- Cancer
- Weakened immune system

Agnihotra can help to reduce these pre-existing conditions. Let us just look at one example, blood pressure.

Agnihotra helps to bring back blood pressure to normal. A simple experiment was done, checking blood pressure before and after Agnihotra. The result was that blood pressure returned to a normal level by experiencing Agnihotra:

Person	Blood Pressure	Blood Pressure
	beforeAgnihotra	30 min afterAgnihotra
<i>P 1</i>	<i>180/100</i>	<i>150/90</i>
<i>P 2</i>	<i>160/90</i>	<i>140/85</i>
<i>P 3</i>	<i>153/88</i>	<i>134/80</i>
<i>P 4</i>	<i>140/90</i>	<i>130/80</i>
<i>P 5</i>	<i>138/86</i>	<i>122/79</i>
<i>P 6</i>	<i>100/62</i>	<i>130/80</i>
<i>P 7</i>	<i>98/60</i>	<i>125/75</i>
<i>P 8</i>	<i>105/58</i>	<i>115/77</i>
<i>P 9</i>	<i>95/55</i>	<i>110/70</i>
<i>P 10</i>	<i>107/57</i>	<i>135/82</i>

Table 14.

There are many reports on how Agnihotra helped to heal other of such pre-existing conditions like heart diseases, asthma, diabetes, and cancer. See: www.homahealth.com

Most important to overcome a virus infection is the immune system as antibiotics do not work. The immune system is compromised by mental factors like stress, anxiety, or depression. The corona situation puts a lot of people under more stress worldwide and thus weakens the immune system when it is much needed.

One example which shows how Agnihotra reduces stress levels in short time. Dr. Dmitry Yudin from Moscow, Russia, took the EEG

Before Agnihotra

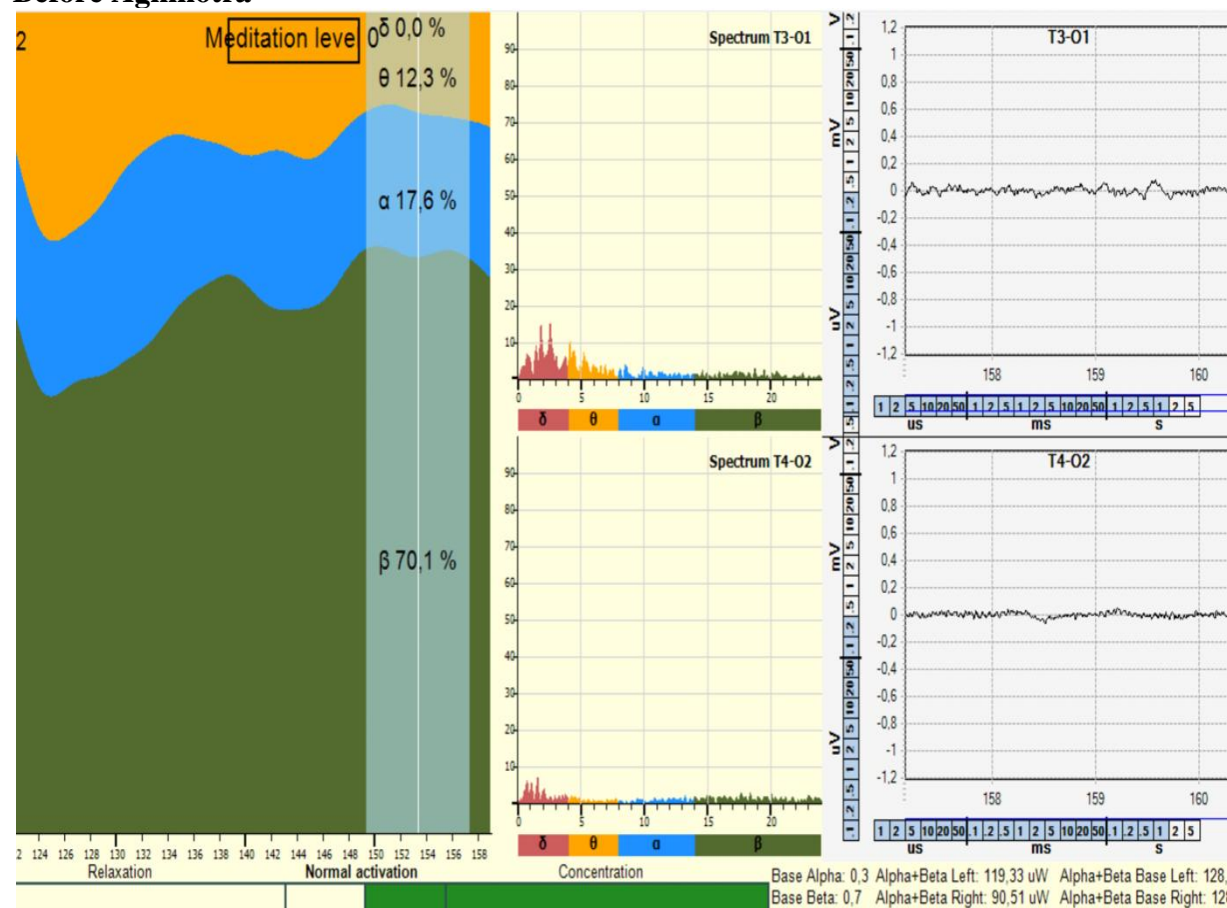


Figure 16.

Before Agnihotra Beta Waves are predominant. Beta Waves indicate fast activity. Too much of Beta Waves leads to stress and anxiety though.

(electroencephalogram) readings of patients before and after Agnihotra. The different frequencies of brain waves are usually distinguished as follows:

- DELTA (less than 4 Hz)
deep dreamless sleep
- THETA (4-8 Hz)
slow activity; deep meditation, creativity, intuition
- ALPHA (8-12 Hz) It is the major rhythm seen in normal relaxed adults being in the present, relaxing state of the mind
- BETA (13-30 Hz)
fast activity; too much of Beta waves leads to stress and anxiety

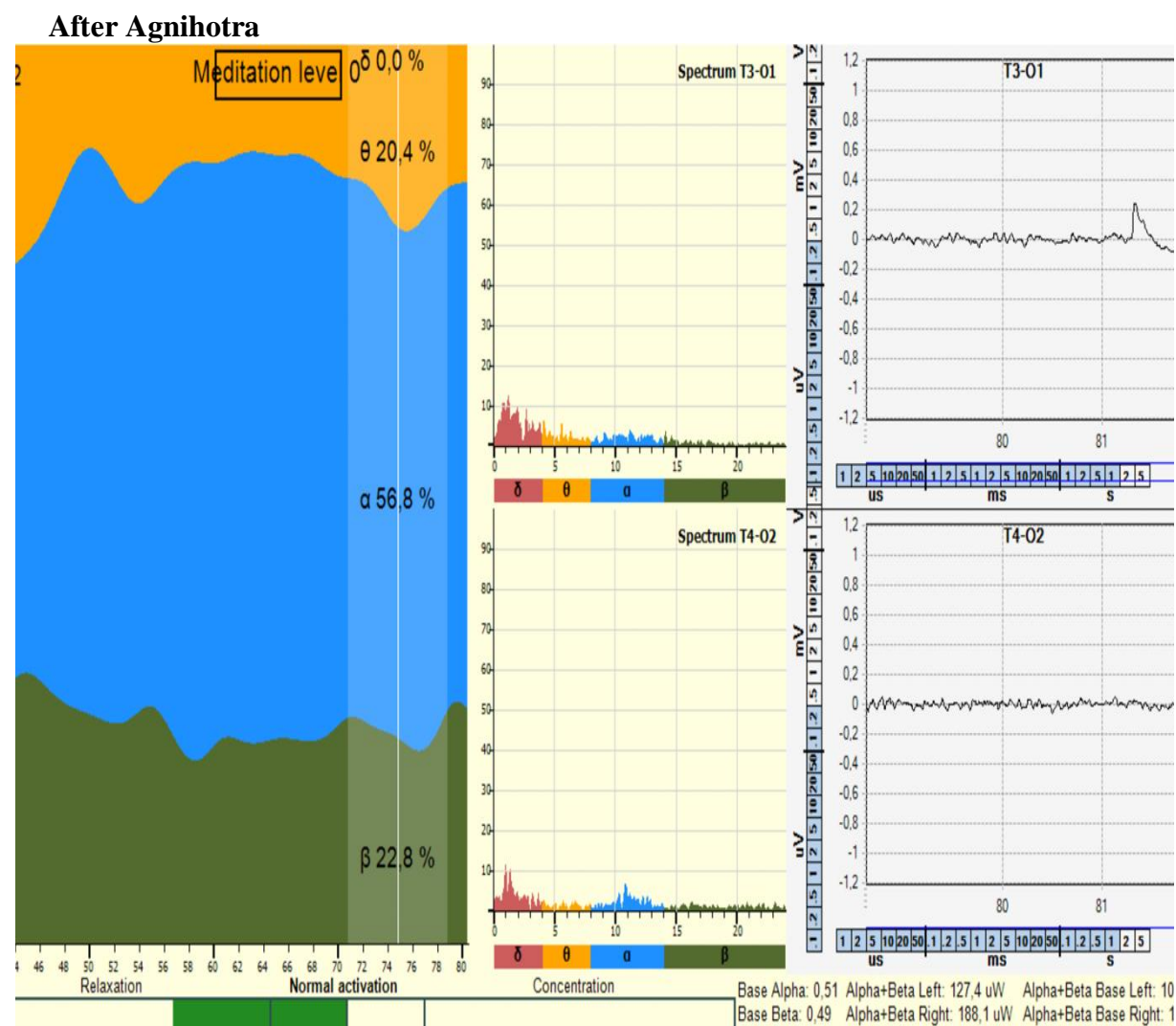


Figure 17. After Agnihotra there is a reduction of Beta Waves and an increase of Alpha Waves (from 17,6% to 56,8%) which indicates reduction of stress and increased state of relaxation.

Also there is a 65% increase of Theta Waves – which indicates a state of deep meditation, creativity, intuition.

This is just one example to show how Agnihotra reduces stress and anxiety – and thus helps us to keep up a strong immune system. Of course also a healthy nutritious diet is important (organic and if possible Homa organic), some exercise like Yoga, enough sound sleep, etc.

Effects of Agnihotra and Agnihotra Ash on the Virus itself

As mentioned at the beginning, we do not have studies on coronavirus itself. But

there is a very interesting pilot study on HIV which is also caused by a virus, though of a different variety. HIV-positive children started to perform Agnihotra. Each child performed his or her own Agnihotra. After some time:

- a) the viral load decreased significantly
- b) the CD-4 protein level increased
- c) the general health of all children improved considerably, showing that their immune system improved significantly.

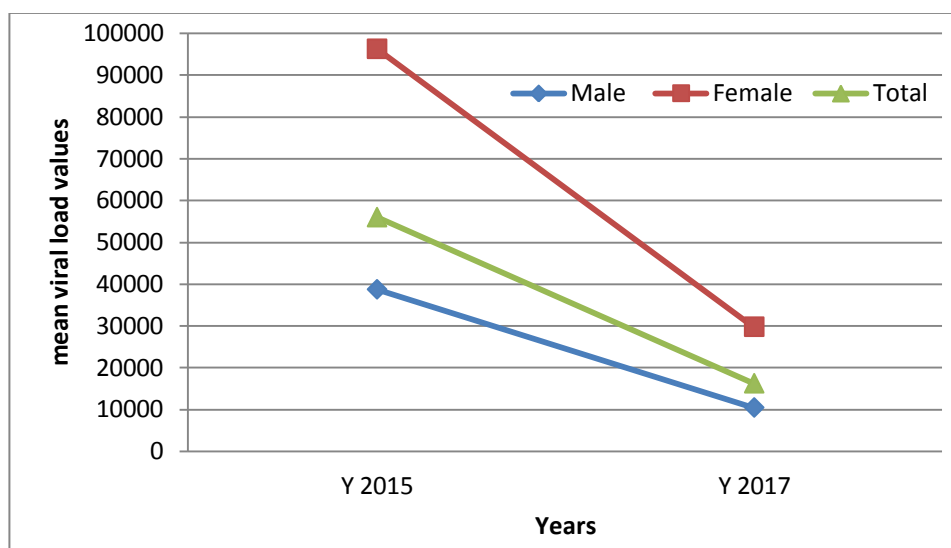


Figure 18. Mean Viral Load values of male and female patients in 2015 and 2017

The study will be published in the January 2021 issue of Integrative Medicine Case Reports(<http://jimcr.com>) under the title AGNIHOTRA AS AN INEXPENSIVE METHOD TO TREAT HIV/AIDS

A detailed discussion on how Agnihotra can help with Covid-19 you find in *Berk/Dubey 2020*

Annexure

WHAT IS AGNIHOTRA?

(Compiled from Berk/Johnson 2009)

Agnihotra, the basic healing fire of HOMA Therapy, is a small fire prepared in

a copper pyramid exactly at sunrise and sunset each day. Agnihotra can neutralize the effects of pollution on plants, animals and human beings and at the same time give nourishment.

MATERIALS REQUIRED FOR AGNIHOTRA PYRAMID: For Agnihotra you require a copper pyramid of specific size. Copper is a conductor for subtle energies also.

RICE: Brown rice. Highly polished rice loses nutritional value and hence low polished rice. Only unbroken pieces of rice should be used for Agnihotra. If rice is broken the subtle energy structure around the material is disturbed and hence is not fit for Agnihotra healing fire.

DRIED COW DUNG: Take dung from male or female progeny of a cow. Make pancake-like patties and dry them in sun. Agnihotra fire is to be prepared from this dried cow dung.

Cow dung is treated as medicine in all ancient cultures whether they be Indians of North or South America, Scandinavians, East or West Europeans, Africans or Asians.



Figure 19. Pyramid

Year	Month	Day	Time
2008	January	1	10:00
2008	February	1	10:00
2008	March	1	10:00
2008	April	1	10:00
2008	May	1	10:00
2008	June	1	10:00
2008	July	1	10:00
2008	August	1	10:00
2008	September	1	10:00
2008	October	1	10:00
2008	November	1	10:00
2008	December	1	10:00

Figure 20.

GHEE (clarified butter): Take some butter from cow's milk, which has no additives and is pure. Heat it on low heat. After the water has evaporated and white solids have risen to the top pass the liquid through a fine strainer. What passes through is clarified butter (Ghee). This can last without refrigeration for a long time.

Ghee is a very special medicinal substance. When used in Agnihotra fire it acts as a carrier agent for subtle energies. Powerful energy is locked up in this material.

TIMINGS: Agnihotra is practised exactly at sunrise and sunset each day. Computer-generated timetables are available for any place using software developed in Germany.

AGNIHOTRA PROCEDURE

A few minutes before the actual time of sunrise and sunset you should start to prepare the Agnihotra fire as follows:

Place a flat piece of dried cow dung at the bottom of the copper pyramid. Arrange pieces of dried cow dung in the pyramid in such a manner as will allow air to pass. Apply a little Ghee to a small piece of cow dung and light it. Insert this lighted piece of cow dung in the middle of the pyramid. Soon all the dung in the pyramid will catch fire. You may use a hand fan to blow the air and help the flame. However, do not blow on the fire so as to avoid bacteria from the mouth affecting the fire.

Do not use any mineral oil or similar material to start the fire. At sunrise and sunset the fire should be ablaze in the pyramid.

You take a few grains of rice in a dish or your left palm and apply a few drops of ghee to them.

Exactly at sunrise utter the first Mantra and after the word SWAHA add a few grains of rice (as little as you can hold in the pinch of your fingers will suffice) to the fire. Utter the second Mantra and after the word SWAHA add a few grains of rice to the fire. This completes morning Agnihotra.

At sunset do the same by using evening Mantras. This completes evening Agnihotra.

If you miss the timing it is not Agnihotra and you will not get the healing effect on the atmosphere or in the ash.

After each Agnihotra try to spare as many minutes as you can for meditation. You can sit at least till the fire extinguishes itself. Agnihotra creates medicinal and healing atmosphere.

Just before the next Agnihotra collect the ash and keep it in a glass or earthen container. It can be used for plants or making folk medicines.

MANTRAS FOR HOMA THERAPY

There are vibrations that exist everywhere. It is only vibrations when you go into it. Where there is vibration there is also sound. When we do these Mantras, the sounds we utter activate these special vibrations that will create certain atmosphere of effects. Then the desired results are realised. These vibrations exist for everything, so anything can be activated, controlled or changed by Mantras.

AGNIHOTRA MANTRAS

AT SUNRISE

sooryáyaswáhásooryáaidamna mama

Add the first portion of rice after Swáhá.

Prajápataye swáhá prajāpataye idam na mama

Add the second portion of rice after Swáhá.

AT SUNSET

Agnayeswáháagnayeidamna mama

Add the first portion of rice after Swáhá.

prajāpatayeswáháprajāpatayeidamna mama

Add the second portion of rice after Swáhá.

Agnihotra should be performed every day at sunrise and sunset. If you miss the time it is not Agnihotra and you will not get the effects.

Exact sunrise/sunset timings (seconds' accuracy) you can get online by just entering your address at:

अग्निहोत्र मंत्र

(सूर्योदय)

सूर्याय स्वाहा सूर्याय इदं न मम ।

प्रजापतये स्वाहा प्रजापतये इदं न मम ॥

(सूर्यास्त)

अग्नये स्वाहा अग्नये इदं न मम ।

प्रजापतये स्वाहा प्रजापतये इदं न मम ॥

Figure 21. Mantra

<https://www.homatherapie.de/en/Agnihotra-Zeitenprogramm.html>.

Also there is an app available for both Android phones and iPhones called Agnihotra Buddy.

You will find the link on the same webpage.

HOW DOES AGNIHOTRA WORK?

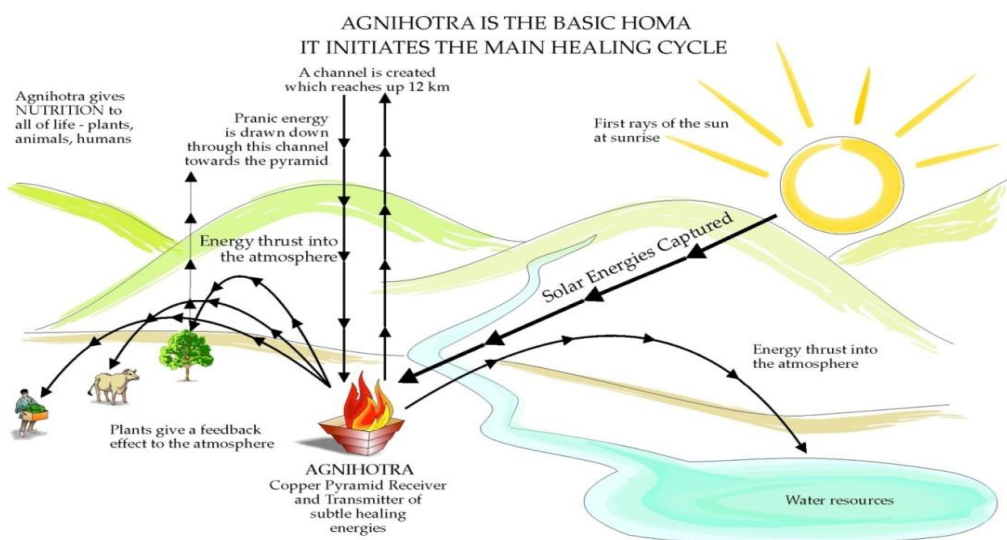


Figure 22.

The sun brings or takes the energy, which makes all conditions conducive to an anti-pollutionary change. It calms the world. The pyramid is the generator, the fire, the turbine.

Just at morning Agnihotra all the electricities, energies, ethers are attracted to the pyramid in its shape. At sunset these energies are thrust out in same shape. This

flood of energies at sunrise creates strong purifying effects on all levels wherever it touches the Earth.

Agnihotra amplifies these purifying effects in the following way:

This flood of subtle energies carries music with it. The morning Agnihotra Mantra is the quintessential sound of that flood.

If you then prepare the fire in the prescribed copper pyramid, utter these mantras and offer the rice mixed with ghee to the fire, then a channel is being created through all the atmosphere and PRANA - life energy, is purified.

Tremendous amounts of energy are gathered around the Agnihotra copper pyramid just at Agnihotra time. The pyramid is the generator, the fire, the turbine. A magnetic type field is created, one which neutralises negative energies and reinforces positive energies.

When Agnihotra fire is burnt there is not just energy from the fire. The rhythms and Mantras generate subtle energies which are thrust into the atmosphere by fire. Also consider the quality of materials burnt wherein lies the full effect of this healing HOMA.

Much healing energy emanates from the Agnihotra pyramid.

An aura energy field is created around plants during Agnihotra. Thus plants become stronger and disease resistant.

When the flame dies the energy is locked in the resultant ash. This ash is used for preparing various folk medicines.

Therefore, by regular performance of morning and evening Agnihotra, you create a positive energy pattern on all levels.

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