Asian J. Adv. Basic Sci.: **2015***, 3(2),* 99-104
ISSN (Print): 2454 – 7492
ISSN (Online): 2347 – 4114
www.ajabs.org

Effectiveness of 3D Cultivation in Nano Pyramid shape fields

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(Received 18 April, 2015; Accepted 05 May, 2015; Published 12 June, 2015)

ABSTRACT: "3D cultivation" is one of the Innovative Techniques to double the yield and growth of the crops. Three dimensional Nano pyramid fields can create more surface area and grid advantage as comparing with two dimensional normal agro fields. Hallow (Air), water, soil chambers are locate in inside of the pyramid. These chambers can regulate all the requirements of the plants at cost effective. No need of ploughing, levelling, and weed management in this system. Crops can save from floods and warming effects. Too benefit for farmers.

Keywords: Pyramid Maths; Space advantage; Grid advantage; Hallow space effect; Capillarity of fibers; 3D cultivation; Organized planting; pyramid powered food products; Second green revolution.

INTRODUCTION: Nano Harvesting (3D cultivation) is nothing but cultivate the crops in Nano pyramid shape fields. The term Nano is the quantitative unit of the length. It is equal to 10 to the power of -9 meters as per units and measurements. But Nano term frequently using behalf of small components in this modern trend. So I used this Nano word instead of mini pyramids.
One curious question asked by my student Sravani such as why the bananas which brought by my father from hill area were very big comparing with local bananas? Was motivated me and all of my team to did this project.

Description of the problem: Today Agriculture field has been faced lot problems. There are no proper irrigation facilities, no sufficient rain fall. Over flow and out of flow of water in the shape of Floods & droughts both, has been effected the yield &growth of the crops and has been caused to loss & expensive cultivation. Due to usage of artificial fertilizers & pesticides in large scale, the physical & chemical conditions of the soil have been damaged rapidly. Ultimately the yield of the crops decreasing gradually and converting the agriculture field as un profitable. So in countries like India, lot of farmers has been committed to suicides. lt is too bad. So i intend to do something for hopeless small scale farmers. I wish that traditional cultivator also should look dignified. The face, fate of the formers, cultivation process should be change.

Brief about innovation: All over my observation, I could found that the yield & growth of the crafts are very high at hill top areas comparing with my local plain area. Also i could found reasons for above yield differences such as cone shape fields, cool& constant temperature, organic manure etc. with help of above findings i designed and implemented the new method of harvesting by correlating the Mathematics, Physical sciences, Agriculture and the Nature with each other.

LITERATURE REVIEW: Naturally i got an idea to cultivating crops in pyramid shape fields because of they can give more surface area comparing with two dimensional base area as per basic pyramid maths equations such as π x r x l > π x r x r. (cone). 2bxh > l x b (In case of pyramid) 2h(a+b)+(axa) > lxb (In case of Trepizoid).
My research started by intention of me to do best for hopeless and poor formers in my local area and motivated by large number of suicides committed by farmers in India and especially in my state Andhra Pradesh during 1995 to 2009 and also Dr. G. Patrick Flangan , M.D., Ph.D., paper is one of the research work done on pyramids and power in side of them. He did several experiments by using Kirlian photography, GSR, voltage differential and electrostatic fields to measure the differences of various pyramids and their effects on living organisms such as plants and people. He done his work motivated by the Bovis and Drbal report on kings chamber level of energy in the pyramids.
His research indicates that the energy is present throughout the pyramid. He was able to mummify food anywhere in the pyramid. He did series of experiments to prove high growth rate of the plants on pyramids. He proved the pyramid treated plants grew 2 or 3 times as fast as the controls. Were more healthy and last longer after harvesting. One California farmer used his system of pyramid cultivation and got 2.1/2 times more yield comparing with California s average.

Some of the strawberry gardeners in America wished to implement his novel pyramid fields and barrels. He was suggested pyramids in square or round. Each step of the pyramid has not less than 6 or 8 inches width. And can be constructed with land scaping wood. He suggested 2 parts of soil, one part peat and one part sand to fill. Barrel is in side wooden structure of pyramid which filled by porous tile and different layers of soil. Which facilitate the water to all the plants which inserted through the holes of the barrel?

My Pyramid structure, Design, scientific principles involved in it are too different comparing with the Patrick Flangan s pyramid design and barrel construction. As per my design i suggesting square pyramids made by the 6mm fiber sheets, every step of the pyramid should have 6 inches to 1 ft width. And 9 inches to 1 ft height.

Inner pyramid consists hallow chamber and water chamber. Hallow chamber make contact with outer climate through the linear pipes and regulate the pressure and temperature in the field. Also provide the cool oxygen rich air to the roots through the soil. Water chamber should be filled by the water at the time of seeding. If once filled there is no need of water. Because the water vapour which comes through the air from outside of the pyramid, when gets cool in to the hallow space turns in to the moisture and observe by the soil which located around the inner pyramid. Liquid fertilizers and pesticides should be dissolved in the water chamber as required. The capillarity cylinders which made by the agriculture wastes should fixed to the water chamber and can manage water in all over the field as slowly and steadily. Around the inner pyramid, soil with organic manure should be filled. As per our estimations all the pyramids are not cost effective, can't give area advantage and space advantages. So i proposed preferable pyramid design to profitable 3D cultivation.

Hypothesis: The main hypothesis of my method is

1). The surface area of the pyramid /cone is greater than the base area of the pyramid/cone

Percentile of area advantage = Surface area —Base area / Base area x100.

Surface area of pyramid greater than base area by more than the double. So three dimensional agro fields are preferable to meet extra space and also to double the yield of the crafts.

2). The hallow space is in side of the pyramid can cause to cool & constant temperature at inside of the pyramid field, because it connects with atmosphere through the linear pipes(Joul Thompson effect) and also lead to sustainable growth of the tissues in maximum rate of photosynthesis & high yield of the crafts. The hallow space inside of the pyramid enhance the dynamic and vital power in the entire field. Roots can breathe the oxygen from inside. The water tank placed above the hallow space help to regulating the water flow in the field. If water filled once (where there is no sufficient water facilities), it can sufficient up to end of the crop. Only 10% of water can enough as comparing with today s irrigation systems.

3). The capillarity cylinders which can made up of agro waste fibers can lift and keep the water to top of the pyramid fields without extra expenses. And also useful as organic manure after decomposition.

4). This new pyramidal harvesting can protect the crafts from floods & global warming impacts by cultivating the crafts at some feet height from the ground

5). More number of plants and more yield can be possible due to organised planting in pyramid field.

PROCEDURE OF THE EXPERIMENTATION:

a) Construction of pyramid and normal fields: By using above hypothesis i conducted experimentation from 24 April 2011upto 18th May 2011at first. Again I conducted same experiment in 2014 as a concept proof project. In 2011, I designed and used 4x4x3ft pyramid. I constructed two separate fields in3 x4x4 sq f area each. Out of them, one is normal field in two dimensional shapes, and other one is pyramidal field in three dimensional shapes. I filled both fields with same soil & fertilizers in same quantity. I estimated no of area grids present, no of seeds planted and germinated, temperature flotation's, and growth & yield of the crafts in both the fields., i repeated this new method of farming on different crafts like leaf vegetables, paddy, and peas for six months. Recently in Feb-April 2014 i repeated same experiment in 6x6x5 feet pyramid. I could get better results from pyramidal field in all above aspects comparing with normal field. So confidently i recommend this NANO PYRAMIDAL HARVESTING (3D cultivation) especially for small scale farmers in arid, semi arid, and flood s effecting regions. I estimated and designed two best sizes, and designs of pyramids such as 6x6x5ft and 10x10x5ft which are very cost effective and can give more grid and surface area. I found that 400 to 900 pyramids needed per acre by cost of 8,00,000/- to 10,00,000/- . It is not much more expenditure in urban or semi urban regions. Because one acre base can create another one more acre of surface area. Its cost in urban may be around 50 lakh to one crore. As per my estimation and yield I got in leaf vegetables one 6x6x5 ft pyramid can give Rs 200/- within 0ne month. Nine pyramids can include in one cent area. That means small scale farmer can get Rs1500/- to 1800/-(9x200/-=1800/-) per month from one cent area. If we rise it per one acre , it may be

come around Rs 1,80,000/ approximately per month. It is so surprising,

RESULTS AND DISCUSSION: Farmers can get direct benefit through this innovation by meet high yield of crafts at low cost and no need to loss their crops because of floods & droughts. No wastage of area & space will be taken due to organized seed planting and enable to more yield, Public also can get food products at low cost .

Fertilizers, pesticides will provide to the crops by mixing in the water tank which is locate in side of the pyramid. This process can reduce wastage of fertilizers & pesticides and their bad impacts. And also can reduce expenses.

If once arrange all the requirements of the crops like water, fertilizers etc. no need to spend anything until the end of the crop period. No need to plowing, leveling and weed management.

Each pyramid can works as engine in generation of vital power around the field. That vital power may enable to rapid growth of plants, yield, and healthy food products.

Ultimately these food products may increase vital power in the people and living beings. The face of the cultivators and shape of the cultivation can be change entirely.

This innovative cultivation can open the doors of new industries in agricultural field such as pyramid moulds production, capillarity cylinders manufacturing , and Nano machinery production instead of big tractors, levelers, cutters etc.

Big business boom will be created through alteration of two dimensional fields in to three dimensional fields and popularization of pyramid powered organic food products will taken place. Employment will also rise in large scale.

Table 1: Findings and applications of the project.

Sr.	Type	Normal fields	Pyramidal fields
1.	Area taken	4x4 Ft	4x4 Ft
2.	No. of grids	24	60
3.	No. of seeds planted	120	300
4.	No of seeds Germinated	333	285
5.	% of seed Germination	27.5%	95%
6.	Water applied	10 Itr per day	10 Itr per day
7.	Soil & Fertilizer ratio	3: 1	3: 1
8.	Growth of the plants	Normal	High
9.	No. of leaves grown	20	22
10.	Height of the plants	45 cm	64 cm
11.	Temperature differences (PM-A.M)	9.5 f	3.2 f
12.	Plowing & leveling	Need	No need
13.	Labor	Need	no need of
14.	Expenses	High	Low
15.	Floods impact	High	less impact
16.	Can be gain per acre	20,000/- per year	1,00,000/- above

Environment conservation: This NANO PYRAMIDAL HARVESTING (3d cultivation) is very benefit able to environment. In normal cultivation, above 60% of fertilizers & pesticides dissolving in the water & sink down in to the soil and evaporating in to the air also causing to air, water, pollutions and soil damage. Also decreasing vital power in the soil by killing many germs & insects. But the pyramidal harvesting can control pollution and protect food chain & vital power in the soil. No need to big irrigation facilities and even single drop of water cannot waste. Water conservation process can be taken properly.

Measuring impact: My project has implemented through making comparison in-between Normal field harvesting and Pyramidal field harvesting. The comparisons taken in different measuring indicators

Such as; 1) Space advantage. 2) Grids advantage. 3) Seed germination. 4) Water requirement. 5) Fertilizers requirement. 6) Growth of the plants. 7) Yield of the crafts. 8) Temperature flotation's. 9) Expenses 10) Floods &drought impacts. 11. Moisture in the soil 12) Porosity in the soil, 13) Nutrients in the soil and plants 14) Air & sun light availability to the plants. 15) Preserving capability and 16) liveliness of the plants. I got profitable results in all above indicators by implementing pyramid cultivation.

Figure 1: photos show that the project done by my students under my guidance in 2011. (April , May). This project awarded first prize in National level INSPIRE project competition organized by Department of science and Technology, INDIA.

Achievement indicators:

1. Small scale farmers can empower.
2. Mal nutrition among the people can control.
3. Can create new employment opportunities.
4. Revolutionary changes can be happen in the agriculture field.
5. Large business opportunities can be creating.

CONCLUSION:

This Nano Pyramidal Harvesting (3D Cultivation) is very applicable in all conditions such as arid, semi arid, flood, wet and dry lands etc. It can replace the old and traditional cultivation methods. Each pyramid works as engine by self reinforcement and formation of favorable climatic conditions around itself. Hallow space which in side of the pyramid works as heart of the field. Compression and expansion of this hallow space can generate vitality and cool & constant temperature can be maintain in field. Sure this 3D cultivation can save the formers and agriculture field from their loss and expensive forming. The Second green revolution can be started through this 3D cultivation. I hope such good days will be come soon and farmers should look dignified by implementing this Nano Pyramidal Harvesting (3D cultivation) in large scale.

Figure 2: Photo shows that startup my concept proof project with self finance support.-2014. I approached to ICRISAT, Hyderabad under Agri Business Incubation (ABI) program in 2013. Also I applied Millennium alliance start up funding agency in 2014 for support. But I could not achieve. But I have a confidence. So I started a venture in 2014 with self support. Results are coming up progressively.

Figure 3: Photo shows construction of pyramid field. Synthetic moulds are preferable in pyramid construction to reduce pyramid cost and Environmental damage.

Figure 4: Leaf vegetable crop growth after Two weeks.

Figure 5: Crop growth after Three weeks.

Figure 6: Crop growth after three and half weeks (second and third rows from up to bottom).

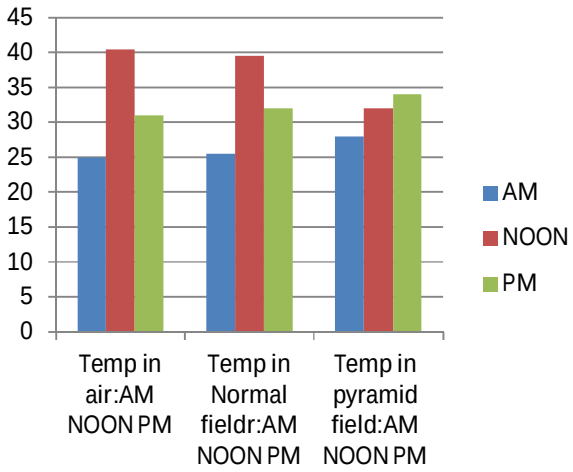

Figure 7: Graph shows Temperature floatation from morning to evening in Air, Normal two dimensional fields and in pyramid field (3D FIELD). I could can observe that there is less difference in between maximum and minimum temperatures recorded in pyramid field comparing with normal fields. Another surprising thing is mid day temperature is lesser than morning and evening temperatures .But in normal and in air mid day temperature recorded as high. These results confirmed that low and constant temperatures in pyramid fields enable to rapid growth and high yield.

Figure 8: Photos shows mummifying capability and liveliness of the plants are very high which are growing in pyramid fields. Right side plant was taken from pyramid field and allowed forty eight hours in normal atmospheric conditions. Left side plant was taken from normal field and kept twenty four hours in same conditions. It confirms that pyramid power which gained by the plants is causes to more than 100% liveliness of the plants.

Figure 9: Photo shows that Right side plant taken from the pyramid field and kept in atmospheric conditions by seventy two hours (Three days). But it looks very fresh comparing with the left side plant which taken from the normal field and kept in same atmospheric conditions by forty eight hours (two days). It confirms that we can keep the vegetables as freshly until few more days even without refrigerator.

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