

## **CASE STUDY FOR USE OF PHYSICAL WATER CONDITIONER TECHNOLOGY FOR DECREASE IN MORTALITY % AND INCREASE IN BIRD MASS WEIGHT IN BROILER POULTRY FARMING .**

### **BRIEF DETAILS :**

Farmer name : Shri Santosh Uttam Pansare. Age 42 years.

Village name : Jawalke , Tal : yeola Dist: Nasik Maharashtra India.

Poultry shed type and size : conventional shed (Non EC ).

Year of Construction : 2012

Name of variety of Bird : ROSS308.

Name of Company : Baramati Agro Ltd.Poultry division.

Branch office address : Yeola Nasik.

No.of Birds : Maximum capacity 4000 birds.

Available water for shed : bore well water .

Water quality : TDS 1600 ppm. Hardness : Not tested.

Main issues : higher mortality ratio , higher FCR and CFCR .

Non Consistent income from growing charges. Mortality penalty and low bird mass weight. Overall farmer is unsatisfied with Poultry shed and worried about efforts to income ratio. About to close this poultry business.

Investment by Farmer : 6,00,000 bank loan to construct shed .

Manpower : Shri Panasare family and Local 1no. Labor.

Today we are going to see case study of poultry farmer name Santosh Pansare village name Jawalke Taluka Yeola district Nashik Maharashtra India phone number 96651 27096.

How physical water conditioner technology changed his low income about to DIE poultry business into super successful business.

Background:

Shri Santosh Pansare has 5 acre farming land with bore well and open well water. He is doing traditional farming agriculture business from last 20 years. In 2012 he started thinking how to do allied side business and earn more income without sacrifice on farming activity. After some initial research he decided to enter into poultry farming and built a poultry shed with capacity 4000 birds, He spent 6,00,000 rs. bank loan for this.

Initial days and problems:

Many many times he thought to give up because nothing is going well only rolling business is going on and on. No decent profit or satisfaction, he did not give up because of no alternate arrangement to pay back loan amount of 600,000. The poultry shed has 4000 birds and variety name is Ross308 broiler from Baramati Agro Limited (poultry business section.) He was completely new into this field and a great learner too. so after two to three batches he realize that the poultry business is not doing well as compared to other poultry farmers so he started visiting more and more successful poultry owners in a distance circle of 70 to 80 km. He travelled more than 3000 km to investigate what is the root cause of his poultry business failure and low success ratio.

After many such visits and detail discussion with poultry owners, veterinary doctors, experienced consultants, he got one clear message there is something wrong with his bore well water. As the water is extremely hard 1600 ppm, so might be water is the one of the reason behind this.

Shri Pansare is doing same efforts and same practices but things are not doing well as compared to other poultry farmers. In every batch there is a always significant difference in earning, mortality % and finally growing charges issued by Baramati Agro Limited.

As per 30 batch reports average income from growing charges are only Rs.10.44 per bird .

The main reason is mortality rate, chicken overall quality, production grade and very important is FCR (food consumption ratio ) all these parameters are liable for less growing charges.

Now the problem is identified but what about solution because poultry requires good quality and huge quantity of water. The consumption depends upon Birds age. Initially less water is required which goes on increasing day by day from first day to last day ( 40 to 45 )

During this learning period he received various non practical solutions like industrial RO Plant. Now investment for RO Plant is Huge and maintenance cost also very high. None of poultry shed was using such system for poultry, the main reason behind this, it is a competitive business with low margin with high risk factor. The capital cost for RO system is very high and poultry owner farmer is not able to afford it.

After many years of research finally Shri Pansare got a ray of hope by one poultry owner. This owner had good experience of using water

conditioner technology and practically satisfied with results, at the same time this poultry owner clearly told Santosh Pansare to go for advance versions of water conditioner for good results and reliability.

Now focus changed to do search for good quality water conditioner technology and in this work he got wonderful help from his farmer friend Babasaheb Vare. Shri Vare spend good time and energy to search for water conditioner technology and every possible affordable long lasting options.

Finally he reached to shri Girish Chandane, An hardcore Innovater and Founder of Autofill Systems, a company only mfr Innovative products. Girish chandane had spent 11 years and has 35000 unit experience in this field. Shri Pansare and Vare finally decided to go to install physical water conditioner for themselves. in May 2021 model 30ECOP44 with 75000 LPH unit was installed for entire 5 acres farm.





After some 2 weeks time, below results achieved.

1. Hard scaling inside tank started disappearing. Before water conditioner, Shri Pansare used to clean tank every 15 days and used to get very hard scales white stones but now it was a history.
2. Every 15 days he used to clean outer surface of drinking pots using acid but now water self is doing same job without any acid just a simple wipe out is more than sufficient.
2. Reduction in mortality rate number.
3. FCR and CFCR are improved by significant value.
4. Shri Pansare is very calculative and kept old records given by Baramati Agro. limited. in separate file. Now he decided to calculate average of all old batches and found that he had earned average rs.10.44 only as growing charges per bird. Now after using water conditioner Technology this figure directly jump to 21 rs. In first batch and 28 rs. In 2nd batch. Pl see attached photo of batch paper issued by Baramati Agro.



5. Baramati Agro Ltd local office make a chart of first five most successful farmers as per mortality ratio, average bird weight, FCR, CFCR and production class A+ or A or B

A+ means very good .

A means good.

B means average.

In last 9 years, shri Santosh Pansare was not able to see his name on white board (image attached) not even first 10 numbers. but after using water conditioner in 1st batch he got 4 th number. Pl see image

बारामती अॅगो लि. रोवला शाखा. जुलै. 2021.

क्र.ं.	शेतकऱ्याचे नाव	मरतुक	वजन	F.C.R.	C.F.C.R.	पक्षी/KG.	सुपरवाईझर.
1.	राजपुत मयुर दिपकसिंग	5.94%	2.41	1.53	1.45	27.49	एम.बि.टोनपे.
2.	ठाकरे राजाराम काशिनाथ	5.22%	2.72	1.57	1.42	22.60	पी.बि.दांडेकर.
3.	पटेल जमिलखाँ हाजीखाँ	3.33%	2.34	1.62	1.55	21.66	जी.एच. उंडे.
4.	पानसरे संतोष उत्तम	5.88%	2.50	1.67	1.57	21.01	पी.बि.दांडेकर.
5.	पगारे दिपक बाबुराव	2.30%	2.54	1.72	1.61	22.09	जी.एच. उंडे.

सर्व शेतकऱ्यांचे हार्दिक अभिनंदन.

AND IN 2ND BATCH 1ST NUMBER. Pl see image.

अ.नं.	शेतकऱ्याचे नाव	चिक्कसू R.F.C.	मरतुक	वजन	F.C.R.	C.F.C.R.	पक्षी/KG.	सुपरवाईझर.
1.	पानसरे संतोष उत्तम	3511	2.49	2.51	1.58	1.48	28.22	पी.बी. दांडेकर
2.	ठाकरे राजाराम काशिनाथ	2371	3.12	2.46	1.63	1.54	23.46	पी.बी. दांडेकर
3.	राजपूत मयूर दिपकशिगे	15354	3.55	2.32	1.62	1.56	21.95	राम.बी. टोणे
4.	दराडे शांताराम रामलाल	4248	2.82	2.31	1.62	1.56	18.64	डी.पी. मंडलिक
5.	शोबणे मधुकर	5385	3.03	2.35	1.63	1.56	17.46	जी.एच. उडे

As on today 28 th nov 2021 3rd batch was completed. and mortality is reduced to 2.02 % which is lowest in market that too using extreme hard water 1600 ppm level.

8 In poultry business 2% mortality is assumed as good ratio and 5% percent is allowed by company. after 5% farmer gets penalty. Using water conditioner mortality reduced to 2.5 % in 2 nd batch and 2.02% in 3rd batch .

9 Mean age is reduced by 1 to 2 days also significant improvement in CFCR and FCR.

Brief description about physical water conditioner technology .

Physical water conditioner water treatment is done without any chemicals/ filters/ salts /resins /cartridge even without any physical contact with water (exception catalytic turbulence based water conditioners). PWCS ( short form of physical water conditioner system) does not change any chemical properties of water example TDS/ PH/ EC/ Temporary Hardness/ Permanent Hardness.

### **If it does not change anything then what it do ?**

In PWCS ...electronic and magnetic waves change physical structure of calcium and magnesium salts present in dissolved form not suspended form.

PWCS do not remove or add anything in water as there is no physical contact with water so there is no provision for addition or removal by any means.


Hard water has dissolved potassium ,sodium, calcium and magnesium. first two salts, potassium and sodium do not have natural ability to stick to any surface or make hard scales.

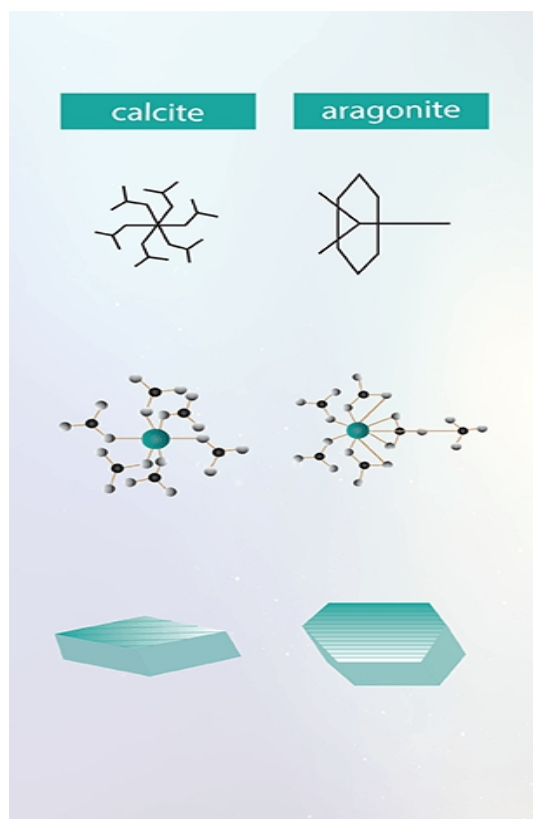
Calcium has 2 types of physical structure a.Calcite b. Argonite. The molecular weight and chemical composition is same but physical structure is different.

Calcite has ability to stick to any surface and make more hard scales. it also reduces soluabilty of water as compared to river water , dam water, pond water and rainwater. The same thing is 100% reverse in argonite form when calcium is in argonite form then it has same chemical properties bus physical properties are completely inherent or non active.



## Comparison in between calcite and Aragonite physical forms.

Chemical Formula: CaCO <sub>3</sub>	Chemical Formula: CaCO <sub>3</sub>
Molecular Weight: 100.09g	Molecular Weight: 100.09g
Calcium: 40.04% Ca	Calcium: 40.04% Ca
Carbon: 12.00% C	Carbon: 12.00% C
Oxygen: 47.96% O	Oxygen: 47.96% O
<b>Calcite</b>	<b>Aragonite</b>
	



The conversion of calcite to aragonite is done by PWCS. when water passes or circulated through PWCS then calcium and magnesium loses its ability to stick to any surface and among themselves. Now these salts do not make any hard scales rather it remain in ultra fine powder.

This converted powder never gets dissolved again and back to water or stick to any surface. PWCS also increases solubility of water because dissolved salts are now in passive or locked condition.

Now any medicine, fertilizer and micro nutrients added, reacts more quickly with treated water and gives more intensive good results. PWCS treated water also gives more good taste as compared to non treated water (PLEASE AND PLEASE do not compare to RO water where we remove each and everything.)

Poultry birds love this water ( improved water taste) and drink more as compared to before.

Overall health of poultry Birds gets improved, this results in less mortality and faster growth with good weight gain.

PWCS is maintenance-free with no recurring cost by any means .

In PWCS there is no physical contact with water or addition or removal of anything from water.

Electronic Indicator which generates electronic waves has solid state circuits with zero moving parts so reliability of same is very very high. also it comes with five years guarantee( replacement guarantee not repairable warranty) all these things result into maintenance free device with zero recurring cost. Also the part which carry water do not have any physical contact with water , it don't have any moving in parts for wear and tear. Water cylinder has complete "passive" part like coils transformer or magnets. this parts gets convert to active part only and only when there is a signal from Electronic indicator. The total power consumption of unit is maximum 50 watt, in some cases 25 watt only.

So it is not like water heater/ geyser to heat up water under treatment. This treatment does not make any temp change in water during water treatment. Technical fact is 90% of power consumption of this unit is consumed by electronic circuit required by its micro-controller based electronic embedded part only.

What is the life of PWCS?

Technically it is INFINITE, practically up to 40 years.

Physical water conditioner vertical by Autofill Systems was in Operation from 2010. The first prototype was installed in 2010 and working 24/7/365 days till today.

We have installed more than 100 plus Village water schemes in Satara and Raver Taluka Jalgaon. The first Village water scheme LIMB GOVE village Taluka Koregaon Dist Satara is installed on 15 Aug 2015, as on today after 77 months, village has used 77,00,000,00 ( 77 cr ) liter of physically treated water but till date not a single 1 rs. Recurring cost by any means. This model has capacity of 100,000 liter per hour and water scheme requirement is approx per day 3,50,000 liter for drinking as well as other use.

How Cellsafe and Autofill Systems is different from competition.

In 2010, when autofill systems decided to enter this vertical. During initial market survey we found that other manufacturers are only doing business to sell something, some have magnetic type unit, some are electrical or electronic type, some turbulence type with metal cartridge.

Every Technology has its own strong points and weak points ( PROS AND CONS ) but most of the manufacturer and traders are busy to sell their products with false promises and marketing messages. So initially Cellsafe and Autofill systems decided below points:

1. Not to bias for any particular technique but adopt everything useful for end result .
2. Not to sell product but provide complete solution.
- 3 create awareness about physical Water Conditioner technology and educate people.

Example: people always compare PWCS with RO systems and salt based water softener. the real fact PWCS is completely ( 180 degree ) different than both segNo change in chemical properties is not limitation or error of PWCS. in fact it is strong point of PWCS because whatever result and treatment it does, it is without any physical contact with water or any Chemicals. There is no recurring cost of maintenance for next many many years.

Also in last 11 year, Autofill Systems done HUGE Research and improvements under contentious improvement program. ( CIP ) with only one point in mind :

### ***“PERFECTING WATER CONDITIONERS”***

We spent around more than 1 crore rupees from our business to :  
Improve designs ,  
Improve installation process,  
Improve Software and Hardware,  
Invent new designs and methods. And last but not least  
Field case studies to compare our own designs.

All these things for only vision make water conditioners more and more perfect , result oriented and easy to understand by people and farmers.



THE BIGGEST PROBLEM OF PWCS is almost ZERO awareness in general PEOPLES. Most of the peoples imagination is limited to RO purifiers and resin based softeners only. We need to think beyond this two methods .

How Cellsafe water conditioners are different from competition :

A. Water conditioner design mfg using 99.99 %copper pipes only.

B. Multiflow designs, means in any type of model there will be at least two or more water conditioners.

C, Design of water conditioner based on flow rate only ...not on pipe size ...TDS level or hardness level.reason behind this is flow rate in LPH ( liter per hour) is only parameter we should consider for PWCS designs.

D. Electronic plus Magnetic composite design with more than 300 field trials we found, electronic plus magnetic will be always much better than only electronic or only magnetic design.

Why Autofill Systems avoid catalytic water conditioner method .?

we avoid Catalytic water conditioner for only one reason. it has physical contact with water and in India rather all over word nobody is able to do cleaning etc. maintenance again and again. Also during comparison case studies, we also found that catalytic is old conventional method which gives less results as compare to two other methods .

In last 11 years we have modified and improved both electronic and magnetic designs. in 2010 we started with 1.0 version now we are doing really well with 8.0 version. All these things done with only one vision.

***“PERFECTING WATER CONDITIONERS.”***

In 2021, we are now able to provide some advanced designs which can reduce 20% total hardness and TDS level. This amount of change in total hardness and TDS value is completely impossible in PWCS but we achieved this using some modifications and advanced methods.

Please note this change is permanent but upto 20 % only (not 100 % like RO or resin based softeners ). This 20 % is too very good figure because it is done without any physical contact with water or using any chemicals just Electronic plus magnetic waves without recurring cost.

Girish Chandane

Founder and Innovater  
Autofill systems .

Ref.: year 2012 to 2021 total 30 batch reports issued by Baramati Agro Ltd. Yeola branch office. Poultry shed owner and farmer Shri Santosh Uttam Pansare .At and Post Jawalke 2 km from Yeola Vinchur Rd. Taluka Yeola district Nasik Maharashtra state India.

Special thanks To Shri Santosh Uttam Pansare and Shri Babasaheb Vare without their support and interest this case study and outstanding results would not be possible.

Plot No. E49/32, Opp. MSEB Office, Sec. 12, Kharghar, Navi Mumbai-410210 Whatsapp : 74980 32728 / 93222 86745 .

E- mail id : [autofillsystems@gmail.com](mailto:autofillsystems@gmail.com)

[www.autofillsystems.com](http://www.autofillsystems.com) , [www.waterconditioner.in](http://www.waterconditioner.in)