A high-speed photograph of a single water droplet falling into a pool of water. The droplet is captured mid-fall, creating a vertical column of water. Below the column, the water surface is disturbed, creating concentric ripples that spread outwards. The background is a solid, deep blue color.

*WATER QUALITY
MANAGEMENT.*

*JANAK DESAI
PUNE*

Water is involved in every aspect of poultry metabolism.

It plays important roles in regulating body temperature, digesting food, and eliminating body wastes.

*Water contributes to about 60 %
Of poultry by wt.*

PROPERTIES OFTEN TALKED ABOUT

- *HARDNESS*
- *TDS*
- *BACTERIAL COUNT (M.P.N.)*
- *pH*

PROPERTIES LESS TALKED ABOUT

- *TEMPERATURE*
- *TASTE & ODOR*
- *BIOFILMS*
- *PRESENCE OF MINS. & SALTS*
- *DEPOSITIONS*

PROPERTIES NEVER TALKED ABOUT

- *DISSOLVED METALLIC IONS*
- *FREE RADICALS*
- *BIOLOGICAL POLUTANTS*
- *SALTING OUT PHENOMENON*

EFFECTS OF HARDNESS

- *LEAVE RESIDUES*
- *CAUSE STAINS*
- *INCREASED pH. & M. P. N.*
- *CALCIUM SATIETY ???????.*

EFFECTS OF T.B.C. & pH

- *ADVERSE EFFECTS WELL KNOWN*
- *ACIDIC WATER CORRODES SYSTEMS*
- *INCOMPATIBLE TO MEDICINES AND VACCINES*
- *ALKALINE FAVOURS BACT. GROWTH*

- *TEMP. – IDEAL 17 TO 24⁰ C*
- *COLOURLESS, ODORLESS, TASTELESS*
- *REMOVE BIOFILMS & DEPOSITS BY
FLUSHING*
- *FOR MINERALS AND SALTS,
GET WATER TESTED*

- *SODIUM > 50 mg/L DIURESIS*
- *SULPHATE > 150 mg/L LAXATIVE EFFECT*
- *SULPHATE 50 WITH NA / MG 50 V. BAD.*
- *MAGNESSIUM > 14 mg/L & SO4 > 50 mg/L*

LOOSE DROPPINGS

- *MN (MANGANESE) ---- FLOVOUR*

PROBLEMS

- *COPPER ----BITTER TASTE AND LIVER*

PROBLEMS

- *NITRATES (NO₃) PRESENCE*

INDICATES CONTAMINATION DUE TO RUNDOWN

CONTAINING FERTILISER, HUMAN / ANIMAL WASTES

NITRATES > 20 mg/L NEGATIVE EFFECT ON GROWTH,

F.C.R. AND PERFORMANCE

- *NITRITE (NO₂) PRESENCE INDICATES*

DECOMPOSITION OF ORGANIC COMPOUNDS

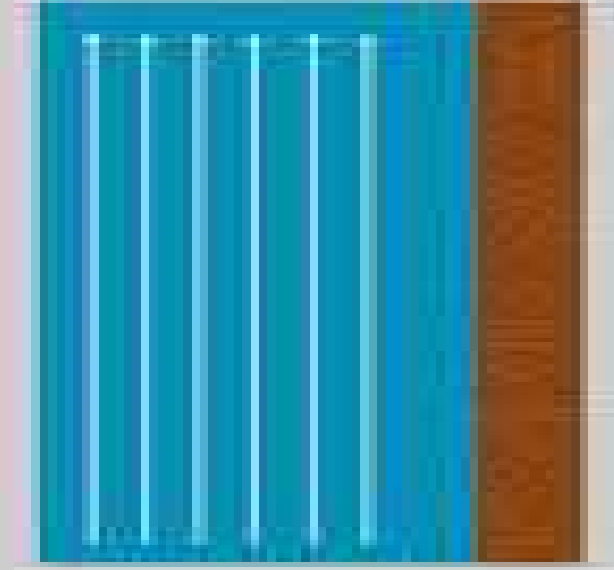
- *NITRITES > 1 mg/L TOXICITY.*

- *THM AND HAA ---- BITTER TASTE AND TOXIC EFFECTS*

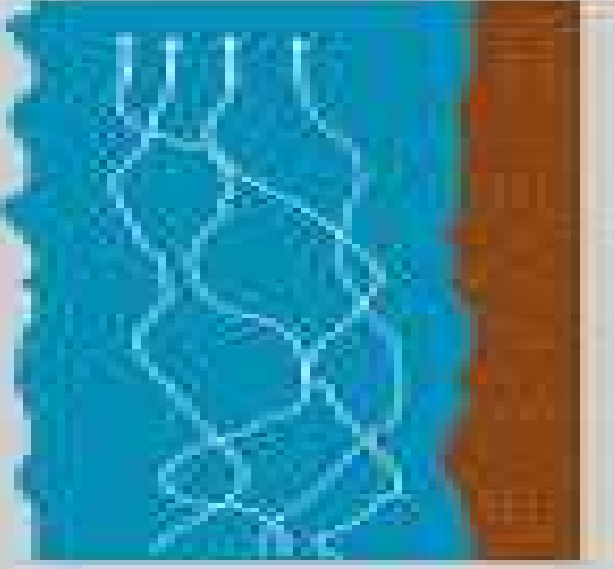
EFFECTS OF DEPOSITIONS

- *NARROWING OF PIPELINES*
- *REDUCES FLOW RATE*
- *CAUSES TURBULANT WATER FLOW*
- *AIDS IN MICROBIAL SEDIMENTATION*





Laminar Flow



Turbulent Flow

EFFECTS OF OVER ACIDIFICATION

- *OVER ACIDIFICATION OF WATER (Ph v. low.)*
- *FORMATION OF COLOURLESS STICKY MUCOUS*
- *CHOCKING NIPPLES*
- *DIFFICULT TO CLEAN IN PRESENCE OF BIRDS*

EFFECTS OF DISSOLVED METALLIC IONS

- *POSITIVELY CHARGED*
- *NEUTRALISE -VELY CHARGED SANITISERS*
- *INCREASE IN T. B. C.*

EFFECTS OF FREE RADICALS

- *ELECTRON GREEDY ACTIVATED CHEMICALS*
- *STEAL ELECTRON FROM EVERY SOURCE*
- *NEUTRALISE REDUCING SANITISERS*
- *VACCINE VIABLE COUNT*
- *APPROPRIATE QTYS. OF ANTI OXIDANTS IN FEED*

IF HARDNESS / TDS IS HIGH

- *INSTALL WATER SOFTNER*
- *ADD SANITISER WITH CHELATING AGENT*
- *BRING IT DOWN TO < 200*

IF MPN / BACTERIAL COUNT IS HIGH

- *ACIDIFY WATER WITH A GOOD WATER*

ACIDIFIER.

- *ADD SANITISER AS PER THE*

RECOMMENDATION OF YOUR VETERINARIAN.

- *TBC 100 & COLIFORMS 50 CFU/100 ML*

IF pH IS HIGH

- *ADD GOOD PURE WATER ACIDIFIER.*
- *IDEAL pH. 6.3 to 7.0.*

- *IDEAL TEMPERATURE 18 TO 24⁰ C*
- *NO TASTE*
- *NO ODOR*

IF BIOFILMS AND HARDNESS DEPOSITS FOUND

- *WASH TANKS WITH ACIDIC CLEANER*
- *FLUSH PIPELINES WITH GOOD
DISINFECTANT CUM DESCALING AGENT.*
- *THOROUGHLY CHECK FOR RESIDUES.*
- *USE SANITISER EFFECTIVE ON BIOFILMS.*



FOR MINERALS / SALTS ???????

- *GET FRAGMENTED STUDIES DONE*
- *CONSULT AN WATER EXPERT.*
- *USE SANITISER ACCORDINGLY.*

IN CASE OF DIFFICULTY

CALL +91 8007112727

+91 7387006249

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THANK - YOU