



Protocol for Aquamimicry Aquaculture

Natural Synbiotics Management

(CAPS 4X High Concentrated)

“Extensive Culture”

(©January 5 2014 / Update 21 February 2020)

CONDITIONS:

Pond Size : One Hectare (1 Ha)
Stocking density : 2-12 pcs per sqm
Salinity : 0-40 ppt
Culture species : SHRIMP | FISH

AGED POND:

- Clean and flush out the sludge as thoroughly as possible.
- Analyzes the pH of your pond bottom soil (min. of 20-30 cm depth) in soak wet soil.
- Check the soil pH (lower soil pH is an indicator of high organic waste accumulated)
- Analyzes the soil for nitrogen (i.e. Ammonium, Nitrite and Nitrate) accumulated.

FIRST STEP (day 1-5) | REJUVENATES AN OLD AGED POND PROBLEMS:

- **DO NOT** apply any **DISINFECTANT** or treat the pond with any **TOXIC** chemical.
- Pump the water into pond through 200-300 mesh bag filtration.
- Fill up the pond water with maximum 1 meter (lower depth provides better result)
 - Soil pH is at neutral 7.0 : Apply 3 bottles of **Red Cap** (RC).
 - Soil pH is between 6.0-6.9 : Apply 6 bottles of **Red Cap** (RC).
 - Soil pH is between 5.0-5.9 : Apply 9 bottles of **Red Cap** (RC).
 - Soil pH is between 4.0-4.9 : Apply 12 bottles of **Red Cap** (RC).
 - Soil pH is lower than 4.0 : Consult your local Aquamimicry's representative.
- Apply 100 kg (10 ppm or 10 g/cum³) of tea seed cake to eliminate the small fish (If any).

Calculates the need of **Red Cap** (RC) and apply at one single dose along with ploughing or chain dragging. Continues chain dragging throughout the pond for at least once a day for 5-7 consecutive days. This would neutralize the pH of soil at the bottom, reducing nitrogen and thus stimulate a large bloom of natural zooplankton and invertebrates. Chain's weight should be at least 30 kg.

OPTIONAL: Blooms natural zooplankton (water depth of 1 meter).

- Set up the facilities to start fermentation (NON-AERATE FOR 48 HOURS).
- 200 kg (20 ppm or 20 g/cum³) of ***GROUNDED** (rice bran/wheat bran).
- 800 liter of pond water is required.
- 40 kg of NaHCO₃ (20% sodium bicarbonate).
- 2 bottles (320 grams) of **Red Cap** (RC).
- Ferment for at least 48 hours (stir well occasionally).
- Make sure the tank is large enough (at least 4-5 times the solution to be used).
- Filter and broadcast throughout the pond while aerations on (if any).
- Filtered rice/wheat bran can be re-use in the fermentation tank till dissolved.
- Stocking the new cycle after 5 days of initially dosage of Synbiotics.

*Chain dragging throughout the pond on daily basis (At least 2-4 hours per day) will greatly reduce the biofilm development. ***GROUNDED** rice bran is fine powder (not crumble).



READY FOR STOCKING:

- Selects good healthy of at least pL 10 and above for stocking.
- Stress test (pH and salinity) for 30 minutes from salt water to freshwater and 30 minutes from freshwater to seawater.
- Acclimatizes the temperature, pH and salinity properly (at least for 30 minutes).

SECOND STEP | Continues daily for 10-14 days after stocking (natural live feed):

- Continues synbiotics daily at 1 ppm (NON-AERATE FOR 48 HOURS).
 - 10 kg (1 ppm or 1 g/cum³) of ***GROUNDED** (rice bran/wheat bran).
 - 40-50 liter of pond water.
 - 2 kg of NaHCO₃ (20% of sodium bicarbonate)
 - 20 grams of **Red Cap** (RC) or 2 grams per kg of substrates.
 - Ferment for at least 24 hours (stir well occasionally).
 - Make sure the tank is large enough (at least 4-5 times the solution to be ferment).
- *GROUNDED rice/wheat bran is fine powder (not crumble).**

MAINTAIN THROUGHOUT THE CYCLE:

- Maintains synbiotics weekly or bi-weekly between 0.5-1.0 ppm (0.5-10 kg per hectare) depends on the pond turbidity.
- If the turbidity is higher than 30 cm, reduce the amount of synbiotics and add ½ bottle (75 gram) of **Green Cap** (GC).
- If the turbidity is lower than 50 cm, increase the amount of synbiotics.
- Turbidity (biocolloids) should not be less than 40-50 cm throughout the cycle.
- Daily check for early morning and late noon.
- Make sure the pH is not fluctuated more than 1.0 log throughout during day and night.
- Dissolve oxygen (D.O) should be maintain at least 3 ppm during late night and should not exceed 10 ppm during the day time. Between 4-8 ppm is most preferably.
- Dilutes synbiotics **FRB** with water and widespread throughout the pond if possible.
- Apply **Yellow Cap** (YC) at ½-1 bottle monthly, will help reduce the built up of sludge and suspended solid.

Trouble Shooting Guide

pH balances during culture:

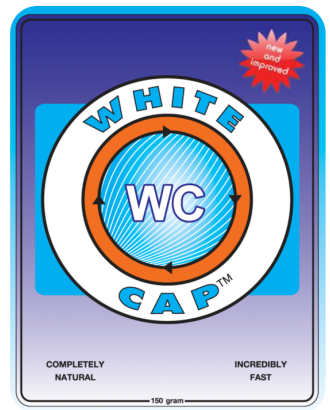
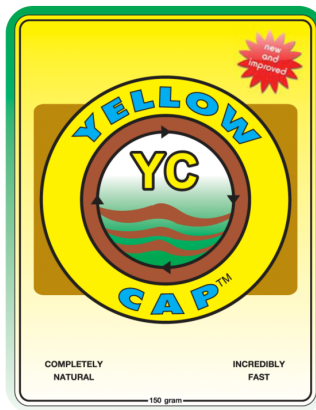
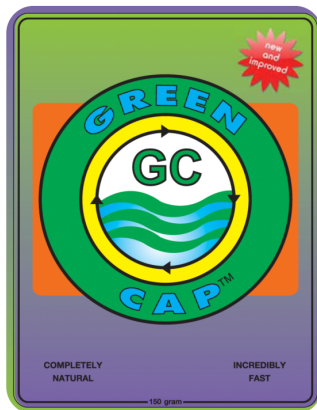
- Apply synbiotics daily at 1 ppm until pH balanced.
- 10 kg (1 ppm or 1 g/cum³) of ***GROUNDED** (rice bran/wheat bran).
- 40-50 liter of pond water.
- 2 kg of NaHCO₃ (20% of sodium bicarbonate)
- 20 grams of **Red Cap** (RC) or 2 grams per kg of substrates.
- Ferment for at least 24 hours (stir well occasionally).



SET UP : Preparation of synbiotics (Base on DRY WEIGHT)

- Set up the facilities to start fermentation process (NON-AERATE FOR 24-48 HOURS).
 - Select husk-free rice/wheat bran and **GROUND THEM INTO FINE POWDER** prior to fermentation for at least 24-48 hours.
 - Mixing 5:1 ratio (5 lt of water + 1 kg) of ***GROUNDED** (rice/wheat bran).
 - Dissolves 2 grams of **Red Cap (RC)** with 5 liter of water, suitable for 1 kg of rice/wheat bran. Higher dosage rate of **Red Cap (RC)** provides faster result.
 - Add 20% of NaHCO₃ (sodium bicarbonate) for pH buffering base on material used.
 - Make sure the tank is large enough (at least 4-5 times the solution to be used).
 - Make sure to maintain the pH of synbiotics at nearest to 5.5-7.0 at all time.
 - No aeration is required for this process, but need to mix thoroughly by manually.
 - Never use any mold, sour odor or alcohol smelled synbiotics.
- ***GROUNDED** (rice/wheat bran), to be used for making synbiotics or otherwise apply 60 mesh filter bag to remove large particles out of the pond. Precipitation of large particles of broken rice and bran can cause the black bottom and biofilm formation.

Red Cap (RC) 160 gram	Green Cap (GC) 150 gram	Yellow Cap (YC) 150 gram	White Cap (WC) 150 gram
<ul style="list-style-type: none"> •Rejuvenates Aged Pond 3-12 bottles •Synbiotics (FRb) 2-4 bottles 	<p>Water Management Approx. 1-2 bot/month</p>	<p>Sludge Digester Approx. ½ -1 bot/month</p>	<p>Amino peptide (AP) 2.5 g/1 kg of soymeal</p> <p>Direct with pellet 0.25 g/1 kg of pellet</p>



PRECAUTIONS:

- Makes sure the pH is well balanced (steady) during day / night. If pond water becomes dark green, apply synbiotics and ½-1 bottle of **Green Cap (GC)** is needed.
- If found afternoon D.O. is above 10 ppm, is an indication of phytoplankton bloom. pH fluctuate during the day and night is an indication of phytoplankton bloom. More synbiotics and ½-1 bottle of **Green Cap (GC)** is needed to balance the pond.
- Apply **Yellow Cap (YC)** on regularly basis in order to keep pond bottom as clean as possible.
- During the cycle, do not chain or rope drag or disturb the area where sludge settled.
- Pond water should be kept max. 1 meter depth for better D.O. and temperature.
- Corner edge dyke of the pond should always be free of black biofilm and string algae.



Protocol **Amino Peptide (AP)**

(©July 12, 2015 / Update version July 2015)

Preparation of **Amino Peptide (AP)**:

- Fill up the container with 40 liter of water (chlorine free).
- 4 kilogram of **GROUND**ED soymeal.
- 400 grams of NaHCO₃ (10% of sodium bicarbonate).
- Dissolves 10 grams of **White Cap** (WC) or 2.5 grams per 1 kg of grounded soymeal.
- Make sure to maintain the pH between 6.0-7.0 at all time.
- Cover up the container / bucket with any suitable material and keep in warm place.
- No aeration is required for this process.
- Fermentation of minimum of 5 days is required.
- Stir well the solution daily by manually prior to use.
- **AP** solution can be kept for 10 days after first use.
- Color gets darken greenish with strong pungent odor.
- Mix **AP** solution at 100-200 ml per 1 kg of feed.
- Mix **AP** solution at 500-1,000 ml per 1 kg of rice bran.

Preparation of **Amino Peptide (AP)** with pellets | rice bran

- Stir well the solution manually prior to use.
- Mix **AP** thoroughly over the pellets and leave them in bag at least 12 hours prior to feed.

Protocol **Synbiotics - Peptide Amino acid (S-PAa)**

(Updated 12 July 2015)

Preparation of **Synbiotics - Peptide Amino acid (S-PAa)**:

- Fill up the container with 200 liter of water (chlorine free).
- 5 kg of NaHCO₃ (sodium Bicarbonate).
- Dissolves 100 grams of **Red Cap** (RC).
- Dissolves 100 grams of **White Cap** (WC).
- Add 50 kilogram of fish.
- Add 25 kilogram of pineapple slice.
- Make sure to maintain the pH between 6.0-7.0 at all time.
- Cover up the container / bucket with any suitable material and keep in warm place.
- No aeration is required for this process.
- Fermentation of minimum of 7 days is required, stir well occasionally.
- **S-PAa** solution can be kept for 14 days after first use.
- Color gets darken brownish with strong pungent odor.
- Mix **S-PAa** solution at 100-200 ml per 1 kg of feed.
- Mix **S-PAa** solution at 500-1,000 ml per 1 kg of rice bran.

Preparation of **Synbiotics - Peptide Amino acid (S-PAa)** pellets | rice bran.

- Stir well the solution manually prior to use.
- Mix **S-PAa** thoroughly over the substrate and leave them in bag for at least 6-12 hours prior to feed.



Protocol Odorless Synbiotics - Amino Peptide (SAP)

(Updated 10 August 2018)

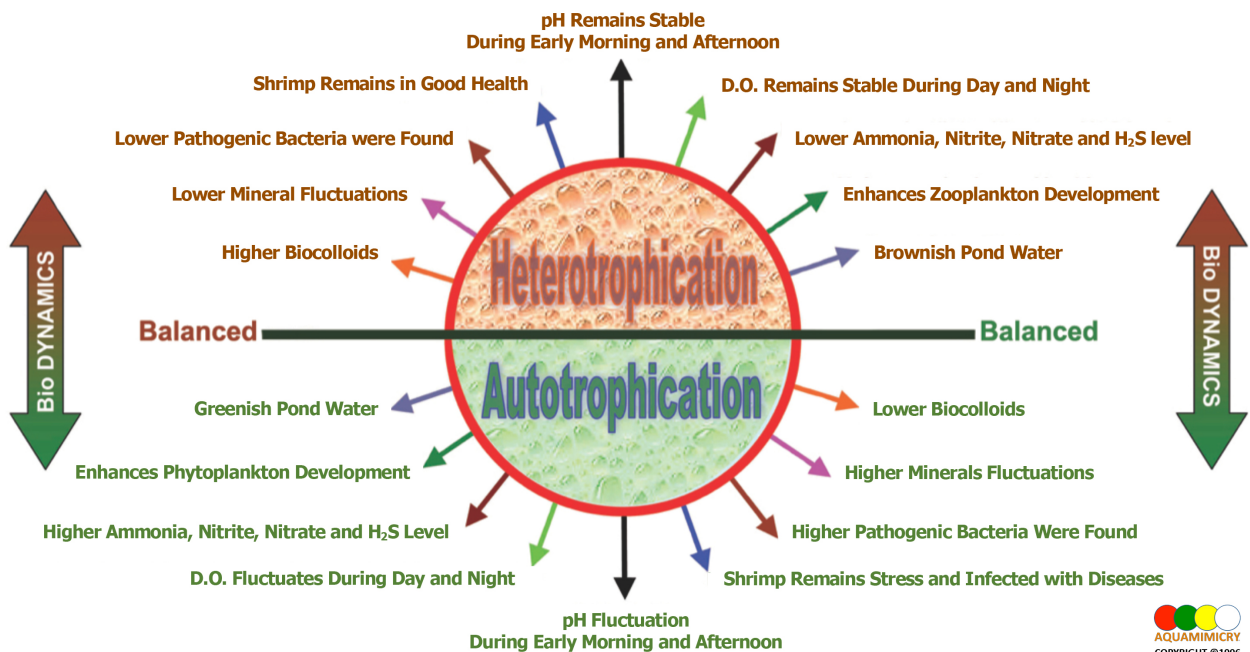
Preparation of Synbiotics - Amino Peptide (SAP).

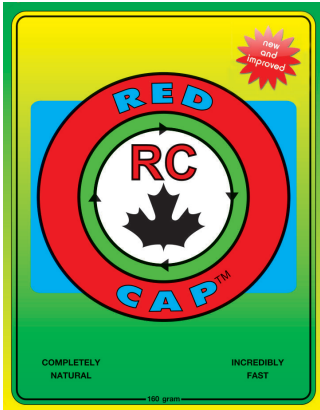
- Set up the facilities to start **SAP** fermentation process.
- Fresh clean water 200 liter.
- Chopped pineapple 20 kg (less than 1 inch each).
- Minced fresh Tilapia (or similar Fish) 20 kg.
- **Green Cap** (GC) 50 grams.
- **White Cap** (WC) 50 grams.
- Maintains pH at 6.0-6.5 with 5%-10% of NaHCO_3 .
- Ferment without aeration for the first 5 days.
- After (5 days) first used, continuously aeration until all used up.
- Mix **SAP** solution at 100-200 ml per 1 kg of feed.
- Mix **SAP** solution at 500-1,000 ml per 1 kg of rice bran.

Preparation of Synbiotics - Amino Peptide (SAP) for pellet | rice bran.

- Stir well the solution manually prior to use.
- Mix **SAP** thoroughly over the substrate and leave them in bag for at least 6-12 hours prior to feed.

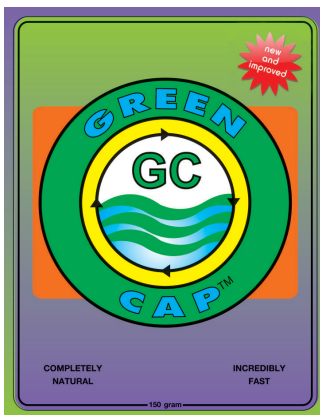
BioDynamics for Aquaculture Management





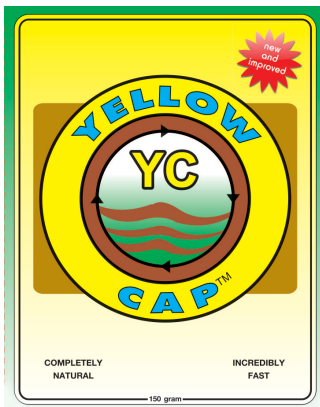
Advantages of Red Cap™ (RC 4X Conc).

- Rejuvenates an old age pond.
- Eliminates lab lab during pond preparation.
- Starter for fermented rice bran (FRB), bloom of copepod and zooplankton production.
- Establishes biocolloids in situ prior to stocking new cycle of post larvae.
- Competitive exclusion against harmful pathogenic bacteria.
- Creates prebiotics and probiotics (Synbiotics) in pond environment.
- Dissolves sludge and organic accumulated in soil into water soluble nutrients.
- Digests organic suspended in water.
- Speeds up the natural process of waste degradation.
- Upcycling organic waste into natural invertebrate and bloodworm prior to stocking.
- Enhances higher survival rate when stocking post larvae (PL).
- Works in fresh and salt water.



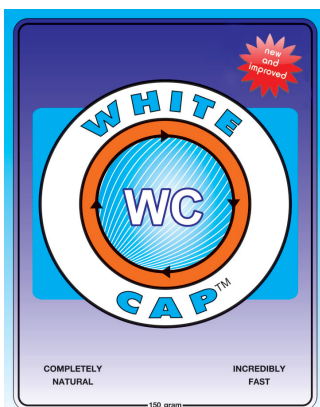
Advantages of Green Cap™ (GC 4X Conc).

- Reduces lab lab problems during culture period.
- Reduces green bloom, blue green algae and unwanted dinoflagellates
- Reduces sticky protein foam and bloom crashed.
- Reduces the over dose of macro minerals in situ.
- Reduces the incident of body cramped.
- Reduces sticky foam and murky pond water.
- Digests dead cell of phytoplankton from bloom crashed.
- Improves transparency of pond water.
- Helps complete the nitrogen cycle, lowering TAN ammonia, nitrite and nitrate.
- Competitive exclusion against pathogenic bacteria in conjunction with synbiotics.
- Reduces suspended solid, BOD/COD, thereby increasing dissolve oxygen in situ.
- Works in fresh and salt water.



Advantages of Yellow Cap™ (YC 4X Conc).

- High concentrated probiotics for shrimp waste and sludge digester.
- Reduces toxic gas from protein waste accumulated.
- Reduces shrimp feces, molted shell and sludge.
- Competitive exclusion against harmful pathogenic bacteria.
- Speeds up the natural process of waste degradation.
- Works in fresh and salt water.



Advantages of White Cap™ (WC 4X Conc).

- High concentrated probiotics for fermentation.
- Starter for fermented soya FSY amino peptide and pine apple (synbiotics).
- Direct top dress over pellets.
- Hydrolyses shrimp feed allowing nutrients to become more abundant to shrimp.
- Assists shrimp defense to withstand highly stressful conditions.
- Improves feed conversion ratio (FCR).
- Creates synbiotics environment in situ.
- Works well in fresh and salt water.