

Natural Concept

Biology at heart
of sustainable development

LES 5 KEYS
of the «NATURAL
CONCEPT»



FAVOR
robustness and
feed efficiency



PREVENT
disease
risks



STIMULATE
the immune
system



USE
the chemical only
in case of proven
pathology



TO GIVE BACK
to the earth the
necessary nutrients

Edito



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Not a week goes by now without some mention of pollution of fine particles or endocrine disruptors. Our environment today is loaded with sensors of all kinds producing thousands of pieces of data, analysed by experts, and immediately shared on social networks and other traditional media. As a result, under the pressure of instant information, our politicians, in the name of the sacrosanct precautionary approach, announce protective measures that are often overrated, to try to reassure the public and, it must be said, to protect themselves...

There is no doubt that we have to worry about our environment, which is a major issue for our health, but let us ask ourselves: could not this precautionary approach be the cause of many anxieties, equally harmful to our health? Just as physical and chemical pollution has an impact on our well-being; so does stress. Moreover, public opinion and consumers were not mistaken in imposing new care standards in the breeding of the animals we consume. The societal backdrop is very interesting. If we treat animals well, give them happy lives, it will be good for their health and for ours.

This is also the philosophy behind Natural Concept: working tirelessly to improve the living conditions of humans and animals, without excess, with a pragmatic and kindly approach, for the benefit of global health.

■ Use of probiotics in shrimps culture systems

Current Industry Problem- Antibiotics

Limiting disease is crucial in shrimp aquaculture. Pathogens, especially *Vibrio* spp bacteria, can significantly impact the bottom line of farmed shrimp producers. Both UV and Ozone processes are effective in sterilizing water; however, bacteria can contaminate sterilized water through a myriad of avenues, including wind, feed, broodstock, and general handling. Once introduced, bacteria propagate freely in a competitor-less tank. Though this growth can be somewhat controlled through a vigilant hygiene regiment, antibiotics are the industry-norm. Though approved in many countries, antibiotics are not ideal, as bacteria can develop resistances to the antibiotics—creating super-bacteria. Furthermore, the antibiotics accumulate in shrimp meat, making their sale unacceptable in some international markets. Thusly, it is in the best interest of the industry to find a natural alternative to antibiotics, and probiotics are one of the promising areas for research and development.

Benefits of Probiotics

Probiotics are the introduction of benign and beneficial bacteria and yeast into the shrimps' ecosystem, usually starting in the hatchery phase. The potential benefits of probiotics are numerous:

- The "good" bacteria push out the potential pathogens and occupy their space in the ecosystem so the "bad" bacteria or viruses can't colonize.
- Some probiotics, include nitrifying bacteria that provide additional benefits through improving water quality by reducing ammonia and nitrite levels
- Shrimp farmers may be able to reduce their daily water exchange from 40-50% to less than 10%, in conditions where the equilibrium in the system is maintained.
- Shrimp feed on probiotics so other sources of protein, for example fishmeal, can be reduced, in some cases more than 10%.

Research on probiotics show promise; however it is a complicated and multi-stepped process; it is difficult to find a complete combination of "good" bacteria in order to occupy the space of all the possible "bad" bacteria and viruses that could invade a tank. It has been found that marine strains of yeast and bacteria work well; however, fundamental research and extensive trials are still necessary before probiotics can have a strait forward use and extend its help on large scale farms.





■ 3.5t LGV with sleeper cab

Due to the overloading of our 3.5t vehicles, the whole team has been looking for solutions to remedy this problem. The principal aim was to maintain the quantities being transported, while not exceeding 3.5t in total weight. We therefore spoke to our colleagues to find out what they consider necessary in the vehicle.

In terms of the chassis/cab of the vehicle:

- We have moved from rear wheel drive to front wheel drive.
- We have removed the passenger seat, as it has no purpose.
- From a double cabin with a bunk, we moved to a single cabin with no rear divide, attached to the load area. We could then place the bunk in the front section of the load area.

For the load area, we used honeycomb panels from aviation, and then convinced a supplier to do the installation. At the same time, we worked on the standardisation of our ventilation and dashboards.

When all these small savings were added together, the weight benefit was greater than we had estimated. The remaining gain corresponds to the value of 4 additional stacks, so we increased the load area by about ten centimetres. We have thus increased the load in a 3.5t from 9,600 to 12,800 ducklings, an increase of 33%. The bunk is also longer, so more comfortable for the driver to sleep in.

By comparison:

Previously, for deliveries of between 9,600 and 12,800 ducklings, an HGV consumed about 26 litres of diesel per 100kms.

Now, we are using a 3.5t, which uses 13 litres of diesel per 100kms. We have 15 vehicles set up in this way.

We are saving an estimated 50,000kms, in comparison with using HGVs, which equates to about 6,500 litres of diesel and less CO₂ released into the atmosphere (about 17 tons of CO₂).



■ Selection for robustness and social effects make Choice Genetics Females thrive in animal friendly open sow housing systems

Great Lakes Pork is located in Michigan and Ontario, and has 18 sow farms with a total of about 35,000 sows. Both Michigan (USA) and Ontario (Canada) have adopted a pig code that require sow farms to get to pen gestation by 2020 and 2024. Great Lakes Pork has implemented a plan to convert its 18 sow barns over to electronic sow feeding (ESF) pen gestation. Choice Genetics interviewed Joel Phelps, President of Great Lakes Pork, Allendale, Michigan, USA.

How does the Choice Genetics parent gilt adapt to pen gestation?



JP: We went into this system, knowing that we had to convert to pen gestation with a female that had been in stalls her entire life. We remodeled the existing farm and converted, from stalls to pens and literally walked sows across the aisle, out of the stall and into the pens. This Choice Genetics females has adapted to that pen almost from the minute we put them in. They are extremely docile, they are friendly, they have the ability to convert from a stall to a pen with very little training and with ease. We have no major issues with fighting or tail biting. That female is built for a pen – and this system.

Have you seen this same behavior once they come out of the pens once you've moved them into farrowing?

JP: We walk into our farrowing rooms today and the sows are used to people, have had people walking around them. They lay there and are content and are worried about nursing their litters. Whether we feed them, we process litters, or are moving sows, these sows have adapted to this system and are totally comfortable.



■ Improved digestive & environmental transit



New: FILAFLO C.

With the same formula as FILAFLO COMPOST, FILAFLO C is administered

through drinking water.

FILAFLO C has various advantages:

1. It allows for **better control of the digestive bacteria** especially around transitions (firmer droppings).
2. An improvement in the **quality of the litter** (more flexible) and the environment (lower levels of ammonia).
3. For those who create compost from the litter, FILAFLO C allows for **bacteria to be easily incorporated** into the litter, thus enabling the degradation of the compost (NFU 44051 standard), resulting in improvements in hygiene levels (against salmonella, E. coli bacteria ...) and in its quality.