

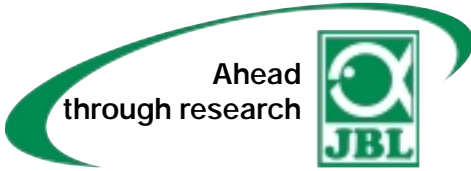
# JBL

What - Why - How?

# Correct feeding

## OF AQUARIUM FISH





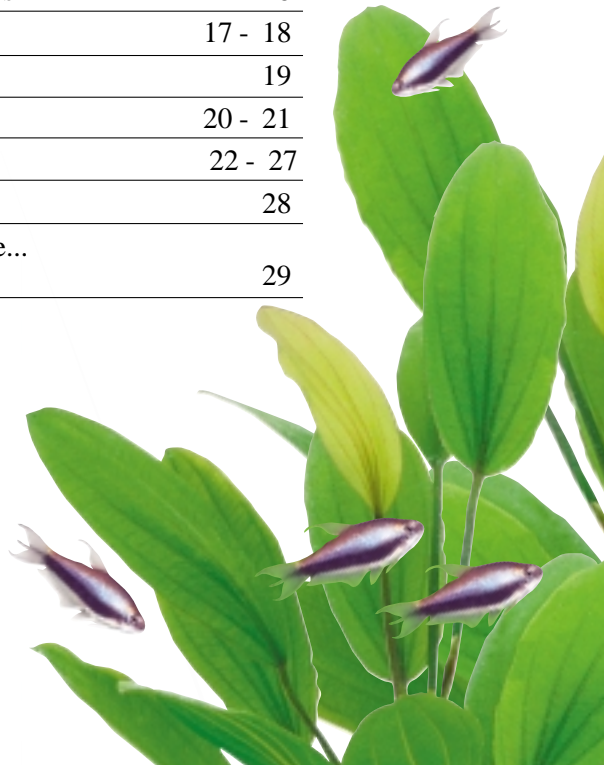
Ahead  
through research



<b>Contents</b>	<b>Page</b>
1. Why species-specific feeding?	2
2. The ingredients	2 - 7
3. Looking at the feeding habits of fish "How much" protein, fat etc.? Various forms of feed Food for specific groups of fish	8 - 9 10 - 13 14 - 16
4. Varied feeding	17 - 18
5. Feeding techniques	19
6. Fish fry	20 - 21
7. The wide range of JBL feeds	22 - 27
8. Supplementary vitamins	28
9. Professional feeding and care... JBL feeding table	29

Published by  
**JBL GmbH & Co.KG**  
D- 67141 Neuhofen/Pfalz  
[www.jbl.de](http://www.jbl.de)

3rd revised edition 2006  
Texts: Dr. Rainer Keppler,  
Biologe im Hause JBL  
Layout: akzenta PR, D- 53797 Lohmar





*Ahead through research*



**JBL**

**1**

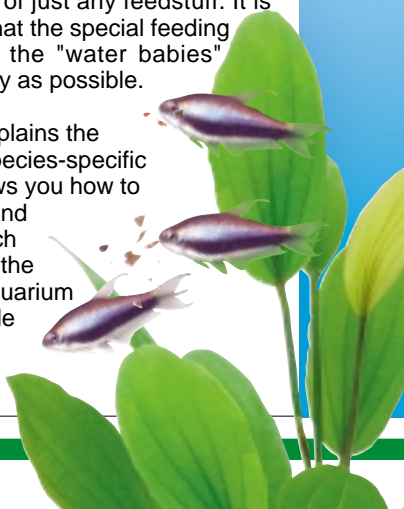
## INTRODUCTION

Over millions of years fish, like all other forms of life, have adapted themselves to certain feeding methods and forms of nourishment which are available in sufficient quantities in their natural habitat. Only in very rare cases do aquarium fish find adequate quantities of any one type of feed in their tank without our assistance.

**One of the most important and interesting tasks of an aquarium keeper is to feed the fish in a healthy and sensible manner as well as to consider the environmental conditions.**

It is not only a question of feeding fish sufficient quantities of just any feedstuff. It is most important that the special feeding requirements of the "water babies" are met as closely as possible.

This brochure explains the significance of species-specific feeding and shows you how to provide healthy and varied feeds which specifically meet the needs of **your** aquarium fish using the wide range of **JBL** fish food.



# 1. WHY SPECIES-SPECIFIC FEEDING?

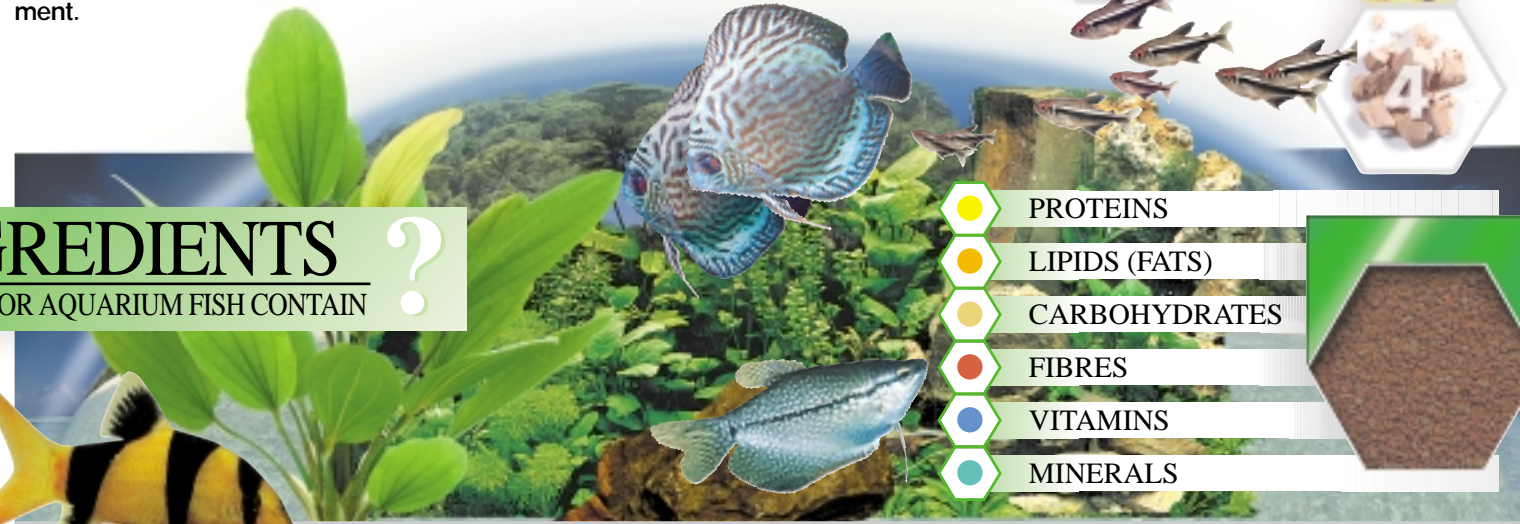
A range of feeds whose composition meets the natural requirements of fish as fully as possible makes a vital contribution to building up the fishes' resistance to diseases and parasites, when combined with suitable environmental conditions such as water quality etc. Varied and specific feeds also improve readiness to spawn.

Incorrect feeding, as well as causing possible damage to internal organs (e.g. fatty liver, inflammation of the intestines etc.), may also weaken the immune system and therefore enable potential disease carriers to attack the fish.

Fish which have been fed correctly according to their needs are able to cope very well with temporarily stressful situations without an outbreak of illness.

For example, transport, temporary fluctuations in water values, handling in the tank etc. are all factors which can cause stress. We must however point out that even the best feeding cannot compensate for permanent stress, (e.g. constantly incorrect water values, incorrect association of species etc.) Fish kept incorrectly will sooner or later fall victim to disease!

The correct feeding of aquarium fish should always be combined with thoughtful design of the fishes' environment.



# 2. WHAT INGREDIENTS ?

SHOULD SPECIES-SPECIFIC FEED FOR AQUARIUM FISH CONTAIN

Considering the enormous variety of foodstuff which many species of fish find in their natural habitat, it seems impossible at first sight to meet all the different requirements in an aquarium.

But however varied the individual sources and the ecological niches of the different types may be, results of much research in this field show that all these sources of food have certain ingredients in common which are vital to healthy and specific nutrition.

Using this information it is now possible, for example, to produce flaked feeds

which contain all the vital ingredients for one particular type of fish.

These are: proteins, lipids (fats), carbohydrates, fibres, vitamins and minerals.

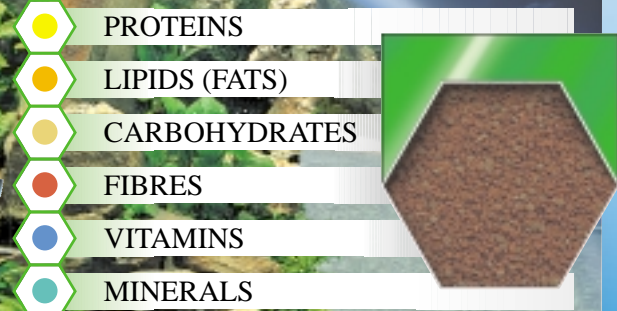
## Proteins

Proteins are the most important elements of all animal organisms. Growth cannot take place without them.

Proteins consist of many amino acids, joined together like links in a chain, the order determining the function of the particular protein in the organism. Of all the amino acids known so far, 12 are considered to be vital (or essential) for fish according to today's scientific thinking. This means that these 12 amino acids must be present in sufficient quantities and in specific proportions in the protein component of the fish food.

Take a magnifying glass to your feed. JBL feed flakes are produced only from carefully selected, high-quality raw materials e.g.:

- ① fish meat
- ② shrimps/ common freshwater shrimps
- ③ soya beans
- ④ yeast



All the other amino acids needed by the fish to make their own proteins can be produced in the body from these 12 essential ingredients. The protein sources which ideally meet these requirements are primarily organisms found in water, especially fish themselves, and plant protein carriers, e.g. soya. **JBL fish feed** therefore contains a balanced

combination of different protein sources such as fish, shrimps, soya and others. As fish, in contrast to warm-blooded creatures (birds, mammals, man), need proteins not only for growth but also in part as an energy source for movement, fish food must also contain more protein than food for warm-blooded pets.

**Lipids or fats**

Particular attention should be paid to the role of fats in the feeding of fish. Fats provide fish above all with an easily accessible and highly nutritious source of energy for movement and metabolism, both of which use a great deal of energy. However, fish are not able to digest every type of fat i.e. use them as an energy source.

A general rule: only those fats which are liquid at the optimum temperature required by a particular species of fish, (as a rule approx. 25°C), are suitable nourishment for that type of fish.

The fats obtained from warm-blooded animals, (cows, pigs etc.), are solid at these temperatures and, if included in the feeds,



would be excreted in an almost undigested state, which could lead to serious inflammation of the intestines.

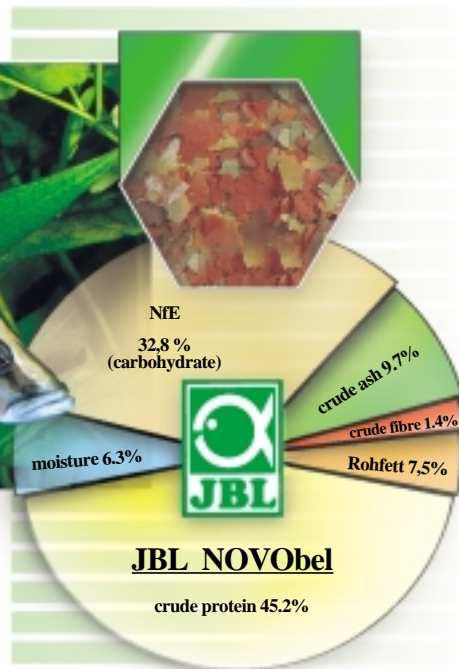
Fats obtained from aquatic organisms are ideal for feeding fish. They contain the so-called unsaturated fats which are essential for growth, health and colouring. Some vegetable fats also contain these unsaturated fats, but in far lower quantities.

By processing fish oil, shrimps and other aquatic organisms, as well as soya, JBL fish feed contains fat which ideally meets these requirements.

**Carbohydrates**

Carbohydrates originate almost exclusively from the plant world and are characterised by sugar, starch and cellulose. With the exception of plant-eating fish, starches and cellulose, because of their complex structure, can be utilised by fish very little, if at all. Simpler structures, such as glucose, can be more easily used and are useful to a certain extent as an energy source in feed.

Cooking breaks down starch, and to some degree cellulose too, into its basic components making it "digestible".



*The danger of incorrect feeding is far greater in an aquarium than in the wild. Therefore it is important that fish feed for aquarium fish contains all the vital ingredients in carefully balanced proportions.*

Starches treated in this manner, (as already described for glucose), may be utilised by fish in certain amounts.

The starch content of **JBL flaked feed** is made more easily digestible for fish by being heated during the manufacturing process. At the same time the starch content ensures that the individual ingredients stay combined together in the typical flake form.

The use of a wide spectrum of different types of grains, vegetables and herbs in **JBL Flake Foods** provides a healthy, varied range of vegetable starch carriers and vital vegetable matter for all species of fish. The ingredients contained in high-grade herbs with their essential oils, alkaloids and other valuable substances make the food readily acceptable to fish and improve their vitality. In particular, the ingredients contained in the garlic counteract diseases and ensure that the fish remain healthy.

**Fibres**

Fibres, (mainly vegetable), have no direct nutritional value themselves but are responsible as ballast material for the correct functioning of the digestive system, as in humans too.

**JBL flaked feeds** contain a variety of vegetable raw materials which provide the correct fibre content.



*JBL's flake feed range offers a wide variety of species-specific feeds for even the most fastidious of fish.*

## Vitamins and Minerals

Vitamins are active substances which similarly have no nutritional function. They control many vital metabolic functions. For this reason vitamins are required in much lower quantities than other forms of nutrition.

Lack of vitamins may, however, lead to serious and often irreversible damage to the organism.



*Lack of vitamins leads to duller colours as well as reduced resistance and immunity.*

Vitamins A and E are especially important. Vitamin A increases the body's resistance to disease, promotes growth, health and vision. Vitamin E improves fertility above all, (hence the name given to it in the past the "fertility vitamin"), and protects vitamin A and the unsaturated fats mentioned earlier against decay.

The fats with many unsaturated fatty acids, which play a vital role in the diet of fish, as already mentioned, are highly perishable. Oxygen in the air quickly leads to the oxidation (becoming rancid) of these unsaturated fatty acids in the food.

This renders the food practically worthless, even damaging for the fish, not to mention the unpleasant smell. Vitamin E also plays an important role here in protecting the valuable unsaturated fatty acids in the food from decay. Substances which have this protective function are referred to as antioxidants.

In addition to Vitamin E, some chemical compounds also have this function. One







well-known compound is ethoxyquin.

Since **JBL** places great emphasis on using natural ingredients wherever possible, **JBL** only uses antioxidants based on Vitamin E.



*JBL GALA is especially rich in minerals due to the inclusion of a high quantity of spirulina algae, which have also proved a valuable source of minerals in the human diet.*

As end-user you can see this in the declaration "with antioxidant E 306". Under the regulations relating to the ingredients in food, this indicates plant extracts with a high Vitamin E content.

-  VITAMIN A
-  VITAMIN D<sub>3</sub>
-  VITAMIN E
-  VITAMIN C (stable)
-  VITAMIN B
-  BIOTIN ; FOLIC ACID etc.



*For species-specific care of your fish in the aquarium, all JBL flake foods contain a balanced multivitamin complex.*

Vitamin C, like vitamin A, improves resistance to infections of all kinds and builds up the body's resistance to all types of stress. **JBL flaked feed** uses a new kind of vitamin C which is especially stable and insensitive to heat and other influences such as light and moisture.

All **JBL** flaked feeds contain a well-balanced multivitamin complex which meets the requirements of all aquarium fish. In addition, **JBL** adds **Inositol** to the feed.

Inositol is an active ingredient similar to vitamins which counteracts fatty degeneration of the liver and stimulates growth by improving the absorption of food by the intestines. The quantity of vitamins and Inositol in the product is printed on every pack of **JBL NOVO feed**.

The inclusion of fish bonemeal and various shellfish in all **JBL flaked feeds** guarantees sufficient levels of minerals in the products.

### 3. LOOKING AT THE FEEDING HABITS OF FISH.



As you can well imagine, given the great variety of species of fish and habitats, not every fish eats the same food. The feeding habits of most aquarium fish are known almost exactly as a result of extensive observations by numerous scientists of fish both in aquariums and in the wild. You too can learn more about your own aquarium fish at home by closely studying their feeding habits.

#### How much protein, fat etc. do aquarium fish need?

You have now learned about the individual ingredients which high-quality feed for aquarium fish should contain. So far "how much" has not been mentioned. That is what we are going to look at right now. Fish may be divided into three main groups according to their feeding habits and the type of nutrition preferred:

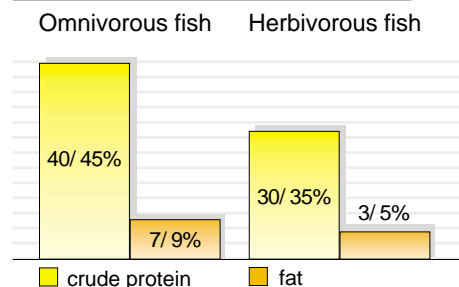
1. meat-eating or carnivorous fish
2. omnivorous fish
3. plant-eating or herbivorous fish

The first group consists of fish which hardly ever come into consideration as aquarium fish because of their predatory habits (they eat other fish). They must be fed almost exclusively with live fish.

Most aquarium fish belong to one of the two groups of omnivorous or herbivorous fish, whereby some form an intermediate group. To find out which fish belongs to which group, either carry out your own observations or consult some of the comprehensive specialist aquarium literature.

In addition to the concern of meeting the

Table ① Crude protein/ fat content



nutrient needs of the species as closely as possible, the effect of the ingredients in the food on the water quality of the aquarium plays a significant role in the selection and combination of the food components.

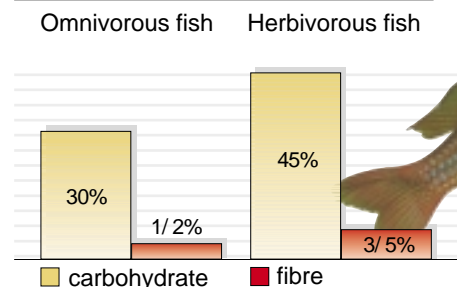
As already mentioned elsewhere, the metabolism of the fish functions in such a way that proteins are not only required for growth but, together with fats and carbohydrates, are also a source of energy. However, the use of proteins as a source of energy has a negative effect on the ecosystem of the aquarium. The nitrogen released during the digestion of proteins to produce energy cannot be used by the fish and is exuded through the gills in the form of ammonium.

This is converted via nitrite to nitrate in the aquarium and pollutes the water as an undesirable algae nutrient. The addition of the appropriate fats as an energy carrier drastically reduce the amount of water-polluting waste products.

Due to the limited opportunities for the fish to move in the aquarium, large amounts of fat can lead to damage caused by fatty degeneration of the organs, affecting the health of the fish and reducing their lifespan.

The ideal composition is a balanced combination of proteins and other energy carriers such as fats and carbohydrates, which, within the framework of the possible tolerances, are suitable for the species and at the same time "kind" to the water.

Table ② Carbohydrate/ dietary fibre



Taking these points into consideration, the following levels have proved to be the best. For omnivorous fish and species which tend more to a carnivorous diet, protein levels of 40 – 45% are ideal, whereas herbivorous fish need significantly less, namely 30 – 35%. Vegetable protein carriers such as soya, wheat protein, proteins from algae etc., should be included as far as possible for herbivorous fish. Fat levels of 7 – 9% for omnivorous species and 3 – 5% for herbivorous species have proved their worth, taking into account the aspects mentioned above.

The demand for carbohydrates is exactly in reverse proportion to the protein content. Herbivorous species need more carbohydrates in their food than omnivorous fish. Like fats, carbohydrates are a readily available source of energy. Together with the higher carbohydrate content, the herbivorous fish also get more ballast material,

vital for their digestive system to function correctly. Herbivorous fish require a ballast content of 3 – 5%, and many herbivorous armoured catfish, which have become specialised in digesting wood fibre, even require over 10%. For omnivorous fish, a ballast level of 1 – 2% is sufficient.

The entire digestive system of the fish has adapted itself over the course of evolution to the

composition of the food, using it to the optimum. For example, herbivores have long intestines, ideally suited to a vegetable diet which is difficult to digest.

Omnivorous or meat-eating fish have much shorter intestines suited to their easily digested diet which is rich in protein. Incorrect feeding may lead to serious disturbances of the digestive system.

All **JBL food sorts** are designed to guarantee the correct nutritional value for the specific group of fish. Exact details may be found in the descriptions of the individual types of feed in Chapter 7 in this brochure.



The intestines run in several coils through the body. The intestines of meat-eating fish are short and straight, whereas those of plant-eating fish (see diagram) are long and twisting.

## Why different forms of feed?

The shape, size and position of the mouth on the body of the fish is an important indicator showing above all where and in what form the fish is accustomed to take in food. There are 3 main groups here too, referred to by the following specialist terms:

**Fish with superior mouths, anterior mouths and inferior mouths.**

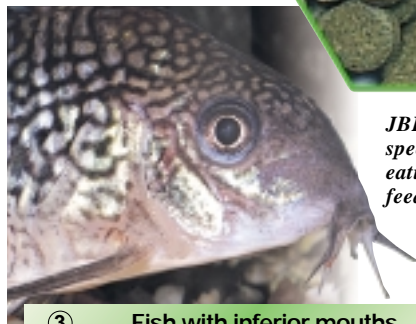
### ① Fish with superior mouths



*Butterfly fish are solely surface fish, fetching their food mainly from the surface.*

The first group contains fish whose mouths slope upwards (e.g. the galaxidae, butterfly fish). The back line of these fish is straight and, as surface fish, they are adapted to feeding at the water's surface.

Fish with anterior mouths have horizontal mouths pointing forwards and a body equally curved at the top and bottom (e.g. characine, barbells). These fish live in the middle water levels and feed there.



### ③ Fish with inferior mouths

Fish with inferior mouths usually have bearded mouths, sloping downwards and a body which curves upwards, with a relatively flat belly line

(e.g. armoured catfish, loaches). These fish feed on the floor, searching with their beards for food.

There are many intermediate forms between groups 1 and 2. Occasionally fish from the middle water levels will look for food on the surface of the water and surface fish will look at lower levels. However, ground-feeding fish are reluctant to leave their "realm" to look for food in open water.

*JBL Novo flake food for surface-feeding fish and for fish of the middle water levels.*



*JBL NovoFect specially for plant-eating ground-feeding fish.*

*The peace-loving catfish are a great enhancement to any mixed aquarium. They consume leftover food off the floor and are also good eaters of algae.*

Surface fish require feed which floats on the surface of the water e.g. JBL NOVO flaked feed.



*JBL NovoStick M are specifically designed for larger aquarium fish like cichlids and others.*



*Fil, JBL NovoDaph etc, is composed of feed organisms in their natural state, which ideally meet this requirement. The fish feed tablets JBL NOVOTab were developed for fish of the middle levels and for ground-feeding fish. The tablets can be dropped to the bottom, thus reaching the more "meat-orientated" ground fish. Or they may be attached in any position on the inside wall of the aquarium and provide ideal nourishment for fish of the middle*

### ② Fish with anterior mouths



*Tetra are typical of the fish of the middle water levels. They are one of the most popular aquarium fish and usually live in large shoals.*

water levels. This feeding method creates an excellent opportunity to observe the fish which immediately crowd greedily around the tablet attached to the wall.

The green feed tablets *JBL NovoFect* are especially suited to the needs of the more "plant" orientated ground fish. Like *JBL NovoTab*, they can be attached to the side of the aquarium, adding a welcome variety to the diet of plant-eating fish of the middle water zone.

*JBL TABIS* high-quality fish feed tablets are a special treat for all types of aquarium fish, introducing additional variety to the diet. The high spirulina and krill content of *JBL TABIS* provides valuable minerals, carotinoids and unsaturated fatty acids for healthy growth and brilliant, natural colouring. *JBL TABIS* can also be attached to the side of the aquarium, if desired.

*JBL TABIS and JBL NovoTab for the specific feeding of fish in the middle levels and ground-feeding fish.*



Some of the feed flakes will sink slowly down and may therefore also be eaten by fish in the middle levels. In the wild surface-feeding fish also eat many insects which fall onto the surface of the water. Natural feed from the Novo range, e.g. *JBL Novo-*



In addition there are differences in the sizes of fishes' mouths. **JBL** therefore produces differing sizes of flakes: large flakes, medium-sized flakes and small flakes - the right size for each mouth.

**Food in granulate form**

Many fish are not so fond of eating food in flake form, but prefer food in "crumb" form as this corresponds more closely to the anatomical characteristics of the fish's mouth.



Large fish such as tropical perch are given **JBL** food in crumb or stick form.

A wide range of **JBL Granulate** foods provide such food in the ideal crumb form.

All **JBL Granulate Food** is developed either to specifically float or sink, in order to provide food for fish at all levels of the water at the same time. Some of the granulate floats to the surface, whilst the rest of the granulate sinks slowly or quickly to provide food for fish in the middle and lower levels of the water.

The **JBL NovoGrano Mini** range is designed for small fish 3 – 10 cm long with small mouths. This group includes e.g. neon tetra, Zebra barbs, guppies and many other popular aquarium fish.

**JBL flake food in different sizes:**

1. Large flake
2. Medium-sized flake
3. Small flake

**JBL food in crumb form**

4. **JBL Grana**
5. **JBL Grana Cichlid**

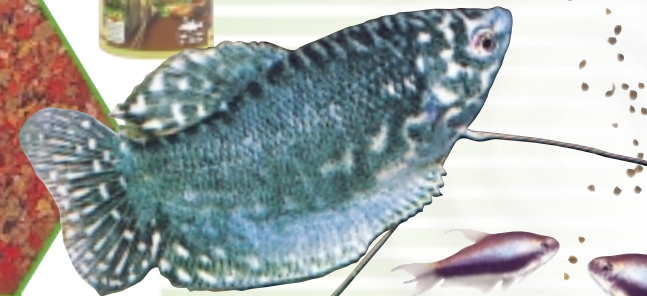


The **JBL NovoGrana** range of food provides medium-sized fish of approximately 5 – 15 cm length with food designed to meet the needs of the species, such as dwarf cichlids, gourami etc.

The concentrated nutrient content of all **JBL Granulate Foods** quickly satiates the fish, making feeding more economical than with flake food, for example. The same size tub of granulate food contains twice as much food as a tub of flake food.

The two granulate foods from the **JBL Premium Range**, **JBL Grana** and **Grana Cichlid**, are a special treat for all fish.

Only selected raw materials of the highest quality are processed, such as extremely pure fish proteins.



The "blue gourami" feeds on medium-sized to large-sized flakes, depending on size. Tetra usually need **JBL** small flakes because of their small mouths.



New: the **JBL Dosage Dispenser** for easy feeding.

foil and screw the dosage dispenser back into position. This is the only way to ensure your fish are fed food of the highest quality.

The **JBL Dosage Dispenser** is the only dosage system on the market with a hermetic closure to protect food from bacteria, pests damp, etc. which can cause the food to deteriorate before the use by date.

## Food for specific groups of fish

### Medium to large-sized cichlids



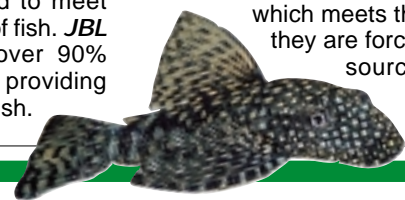
*JBL NovoRift for the food specialists from the African Rift Lakes.*



In the large family of cichlids or tropical perch, the tropical perch from the Rift Valley Lakes, Lake Malawi and Lake Tanganyika, are especially popular fish. The special diet of the "fry eating" tropical perch present a particular challenge when developing a food specially for this species.

In nature, carpets of algae are often "grazed" away with jaws which have evolved for this specific task. The occasional small animal is also devoured in the course of this predominantly vegetable diet.

The tropheus breeds from Lake Tanganyika are well-known representatives of this group. Too much animal protein or red mosquito larva in their food will mean certain death for these fish. **JBL** has therefore taken particular care to develop a suitable food to meet the needs of this group of fish. **JBL NovoRift** consists of over 90% vegetable raw material, providing a healthy diet for these fish.



The food, in the shape of mini sticks, which sink slowly in the water, is ideally suited for the eating habits of these fish.

Due to the high vegetable content of this food, other tropical perch from the same region are reluctant to eat it. For these, more meat-oriented feeders, **JBL NovoStick M** meets their nutritional needs more closely. **JBL NovoStick M**, with its high protein and crustacean content, is eagerly eaten by the more meat-oriented tropical perch and other large fish, both from Africa as well as South America.

### Herbivorous suckermouth catfish

Another group with special nutritional needs are the plant-eating suckermouth catfish. This group is very popular in aquariums as algae-eaters.

Representative of this large group is the Ancistrus species. However, the particular requirements of these attractive fish are very often overlooked or forgotten. It is only when the pitifully "tattered" leaves of larger plants are discovered in the aquarium, that anyone notices that something which is living in the aquarium is lacking an ingredient which can be found in these leaves – and they then begin to ponder the problem. In their natural habitat these fish nibble a lot of wood. They consume a large amount of wood fibre which is vital for their digestion to function properly.

Suckermouth catfish need wood fibre in the aquarium too, and if there is no wood which meets their requirements, they are forced to turn to other sources of fibre, such as plant leaves.

Thanks to **JBL NovoPiecoChips**, this is no longer necessary.

**JBL NovoPiecoChips** contain 10% special wood fibre, in addition to predominantly vegetable raw ingredients, which meet the needs of the special digestive system of these fish. The hard wood chips, which maintain their shape in water, sink to the bottom where

they are nibbled at leisure by the fish.

Please note that not all suckermouth catfish eat vegetables and fibre. A typical example of those which eat small animals and need more meat-oriented food, such as **JBL NovoTab** food tablets, are the popular armoured zebra catfish, *Hypancistrus zebra*, formerly known as L46.



*The optimum food for discus fish: JBL Grana Discus*

### Discus fish

The king of aquarium fish requires a feed specially designed to meet its needs.

**JBL Grana Discus** is a high-grade feed comprised of special granulates which slowly sink in water and are ideally suited to meet the feeding habits of "His Majesty". Vital unsaturated fatty acids and carotinoid promote natural brilliant colouring.

### Marine fish

Two types of feed from JBL's high-grade range contain a mixture of ingredients which are specifically designed to meet the requirements of marine fish in an aqua-

rium. In addition to valuable vegetable components, **JBL Maris**, a flake feed, also contains 30% krill flakes, eaten with relish by marine fish. **JBL MariPerls**, in mini-pearl form, contain precious seaweed, providing algae-eating fish with nutrients in an ideal form.



*Feed marine fish naturally with JBL Maris and MariPerls*

The size of the pearls, which slow sinking in the aquarium, is specifically suited to the eating habits of most marine fish.

## Gold fish and their bred varieties in the aquarium

Goldfish have been developed by breeding from Prussian carp, a member of the carp family. Since carp are herbivorous fish, feed for goldfish should contain sufficient quantities of raw plant material. The special needs of herbivorous cold water fish should be taken into consideration in the processing of wheat germ and algae.

The flake feed *JBL NovoRed* and the feed pearls *JBL NovoPerl* are ideally suited to



tional needs of these fish are no longer the same as their herbivorous original form.

In order to maintain healthy long fins and other special characteristics, the fish require additional proteins, wheat germ and algae. High-grade *JBL GoldPerls* feed provides all the nutrients these fish need and promotes healthy, vivid colouring.



*JBL GoldPerls* is deliberately designed as a granulate which sinks in the water. This suits the particular anatomical features of most forms of goldfish, which cannot consume food at the surface of the water. If the fish were to feed on particles floating on the surface of the water, they would take in air which, due to the physical changes bred in them, would have difficulty escaping again. In extreme cases, this would cause the fish to float upside down in the water.

meet these requirements. The newly designed form of *JBL NovoPerl* as a pearl-shaped feed specifically corresponds to the feeding habits of goldfish.

Many of the popular fish which have been developed by skilful breeding from goldfish e.g. fantails, lion heads and others require a specially adapted feed. Due to the changes brought about by breeding, the nutri-



## 4. GIVE VARIED, HIGH-QUALITY FEED ACCORDING TO NEED

### Varied...

The same food day after day, however healthy it may be, is boring in the long-run and spoils the appetite. - Comparison may be made here with humans. - Promote natural behaviour and increase interest in the aquarium by changing the type of feed often. This gives the fish a variety, such as they are accustomed to in the wild. There is not only one type of food swimming around there either. As well as the staple feed types, *JBL* also has a range of special feeds, e.g. freeze-dried mosquito larva, daphnia, tubifex and others in their natural state, which help you to add variety to the aquarium.

### Meeting needs...

Feeding according to need means: in order to offer a variety of feed you should not give just any combination of different fish feeds, but choose them to meet the needs of **your fish** according to the criteria already described in detail. One example:

You have a mixed aquarium with a few surface fish, more omnivorous fish of the middle water levels, and a few plant-eating ground fish. A varied feeding programme meeting the needs of this aquarium could be as follows:

You have a mixed aquarium with a few panchax as surface fish, more omnivorous fish of the middle water levels, and a few plant-eating armoured catfish as ground fish. A varied feeding programme meeting the needs of this aquarium could be as follows:

As staple feed *JBL NovoBel*, or, depen-

ding on the size of the fish, *JBL NovoGranoMix* or *JBL NovoGranoMix mini*. In addition, *JBL NovoFil Red Mosquito Larva* for the surface fish, *JBL GRANA* and/or *JBL NovoFil Red Mosquito Larva* and/or *JBL NOVODaph Daphne*. Some fish from the middle water levels will also find this tasty and occasionally "catch" some themselves. *JBL NovoPlecoChips* provide the armoured catfish with food which meets their needs. Now and then you can fix a *JBL NovoTab Feeding Tablet* to the glass for the fish in the middle water levels. You can also improve the brilliance of colour and the health of your fish by feeding with *JBL NovoColor*, *JBL GALA* or *JBL KRILL* as staple feed.

*JBL KRILL* is a flake feed which includes krill that has been finely ground in a special mill. This eliminates the danger of injury to the intestines of fish caused by the spines of krill. If, for example, you have mainly "plant" orientated fish such as viviparous fish, the feed must of course contain suitable plant matter. Here you could use *JBL NOVOvert as staple feed*, for example, supplemented with various special feeds. Use the table on page 29 of this brochure to compile a feeding plan exclusively for **your** ornamental fish.



### Quality conscious...

All JBL feeds are made up of high-quality, selected, natural raw materials which, of course, have a limited shelf-life. Vitamins and unsaturated fats in particular quickly deteriorate after coming into contact with light or air. Flaked feed should therefore not be purchased in plastic bags or other transparent packaging.

We recommend the purchase of fish feed in light-proof and air-tight containers, in quantities sufficient for a maximum of 2 months.

In other words, do not buy litre tins, for example, for an 80 litre mixed aquarium, but instead staple food in 250ml containers and special feeds in quantities of 50 or 100ml. In this way you can be sure that your fish always get top-quality, fresh feed.

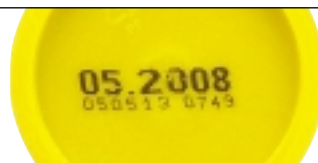
JBL offers a wide range of sizes of containers. In addition, each tin of JBL feed has a use-by date. This only applies to unopened tins.

Varied, specific to needs, quality conscious - the wide variety of JBL feeds means that you always make the right choice.

All JBL feeds are produced strictly according to demand, thereby guaranteeing absolute freshness.



JBL fish food containers are sealed to guarantee the freshness and keeping quality of the vitamins.



The date stamp guarantees the recommended use-by date.



## 5. FEEDING TECHNIQUES

Having learned about the ingredients in the feeds, the requirements of the individual fish groups, and how to compose a suitable feeding programme for your fish, you now need to know "how often, when, how much and in what way".

### How often?

Adult fish, of whatever kind, need less frequent feeding than young fish. One or two feeds per day are sufficient for adult fish. Young fish should be fed 3 - 4 times daily. As all aquarium fish are usually sold as young fish, fish should be fed at least 3 times a day initially.

An automatic feeder may be used for times when you are not at home. Later reduce the frequency of feeds to 1 - 2 per day. Adult fish should have an occasional "fasting" day when they are not fed at all.

### When?

The number of feeds should be evenly spaced throughout the day. Choose the main feeding time so that you are at home to observe the fish feeding.

### How much and how?

A basic rule: Only so much per feed as the fish can eat up in approx. 2 - 3 minutes. A fish's instinctive habit is to constantly search for food. As fish also do this in an aquarium, the temptation is to overfeed them. Do not let this behaviour tempt you to give more feed. You will only create unnecessary amounts of debris in the aquarium.



The new JBL feeding ring, JBL NovoStation, makes feeding simple and targeted.

This feeding ring automatically adjusts to changing water levels.

„click“  
DOSAGE DISPENSER

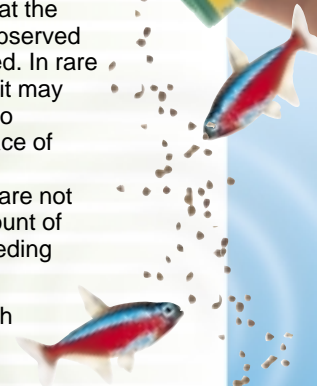
The fish soon become accustomed to this feeding place and, with each feed, all fish will appear at the ring and can be easily observed and checked as they feed. In rare cases, for very shy fish, it may also be necessary to also scatter food on the surface of the water.

If, at the beginning, you are not sure about the right amount of food, we recommend feeding granulate food e.g.

JBL NovoGranoMix with the Click Dosage Dispenser.

This guarantees you do not overfeed your fish.

From the technical aspect, it would be better to switch off the filter when feeding to avoid clogging it with particles of feed which might be sucked in. However, since the damage which would be caused if it were not turned on again would be so great, it is better to leave it running. When the filter is turned off, the bacteria settled in it decompose rapidly and produce poisons which can destroy the entire stock of fish if the filter is switched on again without being cleaned. Not to mention the loss of useful filter bacteria.



## 6. HOW ARE FISH FRY FED?

With sensible care, suited to the particular type of fish, you will not have to wait long for a "happy event" even in a mixed aquarium. Here are a few tips to ensure that the tiny fish babies grow into healthy and resilient fish:

The organism of newly-born fish is concerned with one thing only, to grow, grow and grow again. Therefore young fish need a feed whose ingredients are selected to meet the needs of a rapidly growing organism.

During the first few weeks of life the young fish should almost never be without food. It is important that young fish be fed at least 4 - 5 times a day, as poorly-nourished young fish can never make up the lack of growth during those first few weeks.

As a rule, a hobby breeder has his first experience of providing feed for young fry with the off-spring of guppies or other live-bearing species. Usually this initial experience has to be gained in a general community tank, a special breeding or nursery tank is not often purchased until a later date, if at all. We recommend the use of the **JBL BabyHome**, a spawning box which protects the offspring from harassment from adult fish during the first weeks

For professional aquarists, **JBL** offers various individual rearing feeds to be used in combination as required. The following table is intended as a guideline:

FEED TABLE:	GUPPIES AND OTHER LIVE-BEARING FISH	BARBS, TETRA AND OTHER EGG-LAYING (AFTER CONSUMPTION OF YOLK-SAC)
2 - 5 mm	-	Nobilfluid / live microplankton
6 - 10 mm	NovoTom / NovoTemia	NovoTom / NovoTemia
10 - 30 mm	NovoBea / NovoTemia	NovoBea / NovoTemia
> 30 mm	NovoBel / NovoColor	NovoBel / NovoColor



*Successful breeding can be proof of correct feeding and care. It is the high spot of fish keeping.*

of life. The rearing feed set, **JBL NovoBaby**, consists of a complete set of three feed sorts with graduated grain size, **NovoBaby 01**, **NovoBaby 02** and **NovoBaby 03**.

This set provides all the nutrients needed to rear the first offspring, from new-born fry to healthy adult guppy.

### JBL NovoTom

is a powdered feed, developed to include the ideal ingredients and particle size for the rearing of young fish of live-bearing species. The young fish of egg-laying species may also be fed with **JBL NovoTom** when they have reached the size of, for example, a new-born guppy.

The particularly high proportion of high-quality protein and minerals ensures the healthy growth of young fish.



Analysis:

① crude protein 47% ② crude fat 5.5% ③ crude fibre 1.8% ④ crude ash 9.8%



### JBL NovoTemia

Brine shrimp eggs

An excellent live feed for rearing young fish, which is free from disease-carrying bacteria, may be hatched from these eggs whenever required. The eggs are bred in vigorously aerated salt water and the hatched nauplii of the little saline crabs are fed to the young fish.

Artemia nauplii can be bred reliably and without any difficulty using **JBL NovoSal** artemia salt. One or more clear 3/4l bottles, a membrane pump, air hose, one or more culture apparatuses and an artemia sieve (pet shop) are needed to hatch the eggs. Follow the procedure described in the operating instructions of the culture apparatus.



*The newly hatched larva are an ideal feed for young fish and smaller breeds.*

Diagram ⑥

*hatched artemia,*

Diagram ⑦

*fully-grown artemia*

The nauplii hatch within 24 - 48 hours at a temperature of 24 - 28°C (the higher the temperature, the quicker the hatching). When feeding, be careful not to include any empty egg cases or unhatched eggs. These may obstruct the intestines of young fish and cause death.

### JBL Nobilfluid,

an ultra-fine, homogenised liquid feed, especially rich in vitamins, was specifically developed to meet the needs of the tiny young fish of egg-laying breeds (e.g. characine, bar-bells). The liquid form in a drop bottle enables optimal dosage according to the number of young fish.

High quality nutrients and the special vital vitamins ensure that the tiny young fish, swimming freely for the first time, quickly grow strong.



## 7. THE WIDE VARIETY OF JBL FEEDS

The following list of **JBL** fish feeds is intended to help you put together the correct menu for your fish. Don't forget..... **varied, high-quality and according to needs....**All JBL flake feeds, sticks and pearls contain stabilised vitamin C as well as natural vitamin E extracts as antioxidants.



### JBL NovoGranoMix stable food

**JBL NovoGranoMix** is a granulate with high nutrient content carefully produced using ultra high-temperature preservation. The granulate is designed so that some particles float on the surface of the water, whilst the remainder slowly sink, ideally suiting the feeding habits of fish whatever water level they feed in. Essential ingredients such as proteins, fats and carbohydrates, as well as minerals and vitamins ensure healthy growth and increased resistance to disease.

**Analysis:**

① Crude protein 45.2% ② Crude fat 5.0% ③ Crude fibre 1.4% ④ Crude ash 9.7%



### JBL NovoGranoColor color feed

**JBL NovoGranoColor** contains high-grade natural raw materials, carotenoids and unsaturated fatty acids which naturally enhance the brilliant colouring of all aquarium fish.

Description as for **JBL NovoGranoMix**.

**Analysis:**

① Crude protein 40.0% ② Crude fat 7.0% ③ Crude fibre 3.5% ④ Crude ash 9.0%



### JBL NovoGranoVert Green food

**JBL NovoGranoVert** enthält hochwertige pflanzliche Rohstoffe sowie Pflanzenfasern, die speziell auf die Ernährung pflanzenfressender Aquarienfische abgestimmt sind.

Sonst wie bei **JBL NovoGranoMix** beschrieben.

**Analysis:**

① Crude protein 30,0 % ② Crude fat 4.0 % ③ Crude fibre 6,0 % ④ Crude ash 9.0 %



### JBL NovoBel stable feed

**JBL NovoBel** may be used as staple food for almost all types of ornamental fish in a mixed aquarium due to the well-balanced mixture of different types of flakes, recognisable by the different colours. It contains all the important ingredients needed for healthy growth.

The flake size meets the requirements of small to medium-sized aquarium fish.

**Analysis:**

① crude protein 43.5% ② crude fat 7.5% ③ crude fibre 1.7% ④ crude ash 8.5%



### JBL NovoGrand large flakes

The composition of **NovoGrand** is the same as that of **NovoBel**. The size of the flakes of this staple feed are specially adapted to the feeding habits of larger ornamental fish, for example South American cichlids or large characine, barbells etc.

**Analysis:** as for **JBL NovoBel**



### JBL NovoBea small flakes

The composition of **NovoBea** is also the same as that of **NovoBel**. The size of the flakes of this feed, however, are specially adapted to the requirements of small or tiny ornamental fish. **NovoBea** provides neon tetra, guppies, small barbells and the young fish of larger species with a feed suited to the size of their mouths.

**Analysis:** as for **JBL NovoBel**



### JBL NovoColor colour enhancing feed

High-grade natural products combined with vegetable extracts naturally enhance the rich colouring of your ornamental fish. Alternate this high-quality feed with **JBL NovoBel** or **JBL GALA** or give it as the sole staple feed for special brilliance of colour and healthy growth.

**Analysis:**

① crude protein 46.4% ② crude fat 5.3% ③ crude fibre 1.7% ④ crude ash 12.0%



### JBL NovoVert green feed with 10% spirulina

This green feed with normal flake size is specially adapted to the feeding habits of plant-eating ornamental fish such as viviparous cyprinodonts. The proportion of animal proteins has been reduced and emphasis given to vegetable ingredients, for example vegetable proteins, various algae and vegetables. **JBL NovoVert** is also the ideal feed for small tropical perch from the African lakes.

**Analysis:**

① crude protein 32.5% ② crude fat 4.5% ③ crude fibre 2.5% ④ crude ash 7.0%



### JBL NovoRed goldfish food

**JBL NovoRed** contains a balanced mixture of all the ingredients required for healthy goldfish, including a high proportion of vegetables: grain, fish and fish by-products, crustacean, yeasts, vegetable by-products as well as algae. These medium-sized, easily digested flakes are especially tasty. Vital vegetable ingredients, stabilised vitamin C and other vitamins as well as the bio-element, inositol, promote healthy growth and strengthen resistance to disease.

**Analysis:**

① Crude protein 33.5% ② Crude fat 4.5% ③ Crude fibre 2.0% ④ Crude ash 11.0%





### JBL NovoPerl

JBL NovoPerl contains a combination of nutrients specially selected to meet the nutritional needs of goldfish in an aquarium. The new pearl shape reflects the natural feeding habits of these fish. High-quality ingredients such as wheat germ and various vegetable raw materials promote the health of these fish.

Analysis:

- ① Crude protein 29.5%
- ② Crude fat 4.0%
- ③ Crude fibre 5.0%
- ④ Crude ash 10.5%



### JBL NovoTab fish feed tablets

These high grade fish feed tablets are particularly suitable for feeding the middle level and ground-feeding fish. JBL NovoTab, containing freeze-dried organisms as well as high-quality proteins and other valuable raw materials, are a special treat for aquarium fish. By attaching the tablet to the inside surface of the aquarium tank, the fish feeding in the middle water levels may be easily observed. Simply let a few JBL NovoTab sink to the bottom of the aquarium for armoured catfish and other ground-feeding fish.

Analysis:

- ① crude protein 35.5%
- ② crude fat 3.9%
- ③ crude fibre 3.0%
- ④ crude ash 9.8%



### JBL NovoFect green feed tablets

JBL NovoFect green feed tablets provide all the important nutrients for sisorid catfish, loaches and other "plant-loving" ground fish. Spirulina as well as other algae and various vegetables ensure that the digestive system keeps "on the move".

Analysis:

- ① Rohprotein 35,5%
- ② Rohfett 3,9%
- ③ Rohfaser 3,0%
- ④ Rohasche 9,8%



### JBL NovoPlecoChips for suckermouth catfish

JBL NovoPlecoChips food chips are produced in a special manufacturing process. The composition and consistency of the chips has been developed to specifically meet the nutritional needs of plant-nibbling armoured catfish (plecostomus, ancistrus etc.) and other plant-eating fish which feed on the bottom of the aquarium. Wheat germ, spirulina algae, a high proportion of green ingredients and 10% vital wood fibre provide the nutrients this species require.

Analysis:

- ① crude protein 31.0%
- ② crude fat 3.0%
- ③ crude fibre 5.5%
- ④ crude ash 11.0%



### JBL NovoRift

Slowly sinking, small feed sticks specially designed to meet the nutritional requirements of fry-eating cichlids from Lake Tanganyika and Lake Malawi. Over 90% vegetable raw material including spirulina algae provide healthy nourishment for this group of fish.

Analysis:

- ① Raw protein: 31%
- ② Raw fat: 3%
- ③ Raw fibre: 5.5%
- ④ Raw ash: 11%



### JBL NovoStick M

JBL NovoStick M contains specially balanced ingredients selected to meet the nutritional needs of meat-eating cichlids and other large aquarium fish. Ingredients: fish and fish by-products, grain, algae, yeast and animal by-products. Vital vitamins and natural extracts promote healthy growth, brilliant colours and resistance to disease.

Analysis:

- ① crude protein 42.0%
- ② crude fat 5.0%
- ③ crude fibre 3.0%
- ④ crude ash 9.5%



### JBL NovoFil red mosquito larvae

These freeze-dried red mosquito larvae contain all the important nutrients of live feed. A natural product which is readily eaten by even the most fastidious of fish species. The high protein and fat content makes JBL NovoFil particularly suitable for the growth of young fish. This feed should only be used in conjunction with other types of feed to avoid a one-sided diet.

Analysis:

- ① crude protein 55.0%
- ② crude fat 13.0%
- ③ crude fibre 7.0%
- ④ crude ash 6.0%



### JBL NovoFex tubifex cubes

Freeze-dried tubifex in practical cube form. A natural feed, especially high in protein. As for JBL NovoFil, only use in conjunction with other types of feed.

Analysis:

- ① crude protein 60.0%
- ② crude fat 12.0%
- ③ crude fibre 2.0%
- ④ crude ash 8.0%



### JBL NovoDaph water-fleas

Natural, dried water-fleas. This supplementary feed has a high proportion of chitin, a partially digestible ballast which is important for the digestive system of the fish.

Analysis:

- ① crude protein 50.0%
- ② crude fat 10.0%
- ③ crude fibre 2.0%
- ④ crude ash 18.0%



### Food for fish fry and young fish

The successful breeding of aquarium fish is the high spot of aquarium keeping and at the same time it is proof of the correct feeding and care of a particular species.

For the young offspring in the aquarium, JBL offers 4 types of food, all developed to meet the needs of young fry of most species of aquarium fish.

More details can be found on P. 20/21.



# PREMIUM FOOD FROM JBL

With food from the *Premium Range* from JBL you can offer your aquarium fish something quite special. Particularly high quality ingredients have been selected for this range of food, on the one hand to offer the fish variety in their diet with especially tasty treats, and on the other hand to provide certain, more fastidious groups of fish with food which meets their specific needs. So here you can find, for example, special food for discus fish, fan-tails and marine fish.



## JBL GALA stable food with spirulina

A top-quality staple food. A special process finely grinds the raw materials and the balanced combination of nutrients ensures good digestion and prevents any significant water pollution. Valuable minerals of spirulina algae as well as vitamins and the bio-element, inositol, ensure natural and healthy growth and increase resistance to disease. Thanks to the addition of freeze-dried red mosquito larva, this food is eagerly consumed by even the most fastidious aquarium fish. In addition this food contains spirulina and other algae, valuable sources of minerals.

**Analysis:**

- ① crude protein 46%
- ② crude fat 8.0%
- ③ crude fibre 1.8%
- ④ crude ash 9.0%



## JBL Grana stable food with 10% krill

A semi-floating, nutrient-rich granulate for all aquarium fish. The granulate sinks at different rates in the water, so that fish of all water zones are fed according to the needs of the species. High nutrient levels and easy digestibility mean that even the larger fish are quickly satiated, with minimum water pollution. The valuable unsaturated fatty acids and carotinoids in krill naturally enhance brilliant colouring. Stabilised Vitamin C and other vital vitamins promote health and increase resistance to disease.

**Analysis:**

- ① crude protein 43%
- ② crude fat 6.0%
- ③ crude fibre 1.8%
- ④ crude ash 9.5%



## JBL Grana cichlid with 10% krill

The composition of JBL GRANA cichlid and JBL GRANA are identical. However, the crumb size of JBL GRANA cichlid meets the requirements of larger fish, such as cichlids (African as well as South American).

**Analysis:** as for JBL GRANA



## JBL TABIS

Premium class fish feed tablets are an absolute treat for all aquarium fish and add variety to the diet. A high proportion of krill and spirulina promote healthy growth and brilliant colouring. The raw materials are finely ground using a special process, making the ingredients more easily digested and reducing pollution of the water.

**Analysis:**

- ① Raw protein: 46%
- ② Raw fat: 6%
- ③ Raw fibre: 2.5%
- ④ Raw ash: 11.2%



## JBL KRILL

A premium class flake feed containing 20% krill, which makes it an absolute treat for all aquarium fish. An extremely fine grinding process prevents any damage being caused to the intestines of the fish by the spines of the krill. This fine consistency improves digestion and reduces water pollution. The precious ingredients of the krill promote the natural brilliant color

**Analysis:**

- ① Raw protein: 47%
- ② Raw fat: 6%
- ③ Raw fibre: 3.5%
- ④ Raw ash: 10.5%



## JBL GoldPerls

This food contains a combination of high-quality nutrients in a new pearl form, specially developed for the particular feeding requirements of fantails and other varieties of goldfish. Precious ingredients such as spirulina algae, wheat germ and various vegetable raw materials maintain the health of these fish. Vital vitamins, valuable unsaturated fatty acids and carotinoids promote the natural brilliant colouring, increase resistance to disease and ensure healthy growth.

**Analysis:**

- ① Crude protein: 41%
- ② Crude fat: 5%
- ③ Crude fibre: 4%
- ④ Crude ash: 11%



## JBL Grana Discus

A semi-floating, nutrient-rich granulate for discus and other fastidious aquarium fish. The granulate sinks at different rates in the water. Contains a special combination of proteins as building blocks, fats and carbohydrates as energy carriers, as well as minerals, ballast and carotinoids.

**Analysis:**

- ① Crude protein: 47%
- ② Crude fat: 10.5%
- ③ Crude fibre: 2.8%
- ④ Crude ash: 7.4%



## JBL MARIS

A combination of proteins as building blocks, fats and carbohydrates as energy carriers, as well as minerals and ballast specially developed to meet the particular feeding requirements of marine fish. The high proportion of krill with valuable carotinoids and unsaturated fatty acids, as well as high quality vegetable ingredients promotes the health of these fish. The raw materials are finely ground using a special process, making the ingredients more easily digested.

**Analysis:**

- ① Crude protein: 44%
- ② Crude fat: 5%
- ③ Crude fibre: 2.5%
- ④ Crude ash: 11.2%



## JBL MariPerls

Slowly sinking feed pearls specially attuned to the particular feeding requirements of marine fish in the aquarium. The small pearl form closely corresponds to the natural feeding habits of these fish. Precious ingredients such as marine algae and various vegetable raw materials promote healthy growth.

**Analysis:**

- ① Raw protein: 38%
- ② Raw fat: 4%
- ③ Raw fibre: 4.5%
- ④ Raw ash: 10.5%







*Vitamins promote vitality, brilliant colouring, health and readiness to spawn.*

## 8. SUPPLEMENTARY VITAMINS

All flaked feeds in the **JBL NOVO range** contain a well-balanced complex of multivitamins, as already described. It may nevertheless be necessary, in certain situations, to give additional vitamins. **JBL Atvitol**, a liquid multivitamin supplement, was developed for this reason. **Atvitol** helps fish to cope better in certain temporary stressful situations, for example:

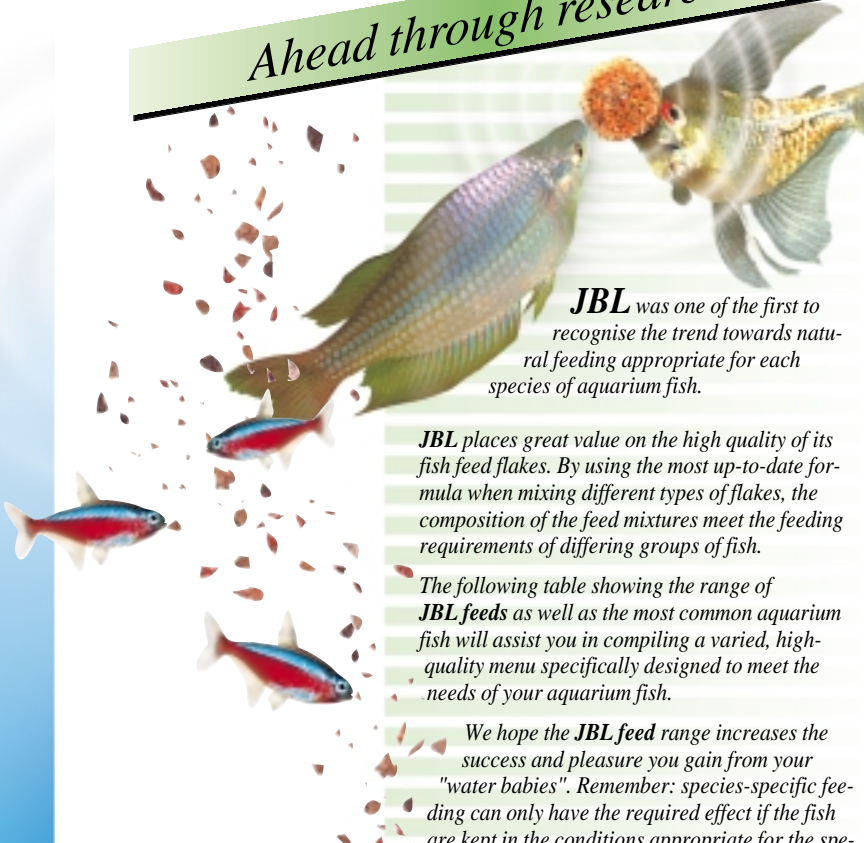
- during treatment of an illness and in the subsequent convalescent phase
- during and after transport
- when new fish are introduced
- after major work in the aquarium



Please remember: only **temporary** stressful situations can be better coped with using supplementary vitamins. **Permanent** stress e.g. caused by unsuitable conditions, cannot be alleviated by vitamins however high the dosage! The beneficial micro-organisms in the aquarium also regularly need vitamins in order to maintain the best possible cleaning power. An additional dosage of vitamins in the aquarium water is also beneficial after treatment of fish illnesses, which often has a detrimental affect on the filter bacteria. Should you not use up an opened can of feed within 2 months, for whatever reason, the decreased vitamin content of the feed caused by over-long exposure to the air may be improved by the addition of **JBL Atvitol**. Simply add one or two drops of **JBL Atvitol** to the feed just before feeding.

# JBL

*Ahead through research*



**JBL** was one of the first to recognise the trend towards natural feeding appropriate for each species of aquarium fish.

**JBL** places great value on the high quality of its fish feed flakes. By using the most up-to-date formula when mixing different types of flakes, the composition of the feed mixtures meet the feeding requirements of differing groups of fish.

The following table showing the range of **JBL feeds** as well as the most common aquarium fish will assist you in compiling a varied, high-quality menu specifically designed to meet the needs of your aquarium fish.

We hope the **JBL feed** range increases the success and pleasure you gain from your "water babies". Remember: species-specific feeding can only have the required effect if the fish are kept in the conditions appropriate for the species. Your local specialist aquarium supplier will be pleased to give advice and recommend literature on this subject.

Further **JBL WWH** booklets dealing with other associated topics are also available from your aquarium supplier.




# SPECIES-SPECIFIC FEEDING

FOR COLD WATER, TROPICAL, FRESHWATER AND MARINE FISH

	JBL NovoColor	JBL NovoVert	JBL NovoBel	JBL NovoGrand	JBL GALA	JBL Grana	JBL GranaCichlid	JBL TABIS	JBL Krill	JBL GoldPerls	JBL GranaDiscus	JBL MariPerls	JBL MARIS	JBL NovoColor	JBL NovoVert	JBL NovoRed	JBL NovoPerl	JBL NovoTab	JBL NovoFect	JBL NovoPecoClips	JBL NovoRift	JBL NovoStick M	JBL NovoFil	JBL NovoFex	JBL NovoDaph	JBL NovoTom	JBL NovoBaby	JBL NovoTemia	JBL Nobilitud	
Neon and other small tetra																														
Congo tetra and other large tetra																														
Loach and coolie loach																														
Armoured catfish																														
Suckermouth catfish																														
Common catfish																														
Common half-beak																														
South American large cichlid																														
Discus fish																														
Dwarf cichlid																														
East African, small animal eaters and predators																														
East African fry-eaters																														
Labyrinth fish																														
Atherine (rainbow fish)																														
Egg-laying cyprinodont (killie)																														
Live-bearing (viviparous) cyprinodont																														
Zebra barbell and small barbell																														
Shark barbell and large barbell																														
Goldfish																														
Bred varieties of goldfish (fantails)																														
Butterfly fish																														
Marine fish																														
Fish fry																														
Young fish																														

● staple food    ● supplementary food    ● occasional supplementary food

# JBL



*Please do not forget that species-specific feeding can only have the desired success if the other conditions in the aquarium also meet the needs of your fish. Your specialist aquaristic retailer will be pleased to give you advice and recommend further literature.*

## JBL-WWH-BROCHURES

*on other topics from the field of aquaristics are also available from your specialist retailer.*



.....  
YOUR SPECIALIST DEALER

GB Art.Nr. 96224 10 V02

