

# Systemic pond care



**Sustainable, easy steps for a  
permanently clear pond**



# The new sera system

Example:  
water care

The new pond care system by **sera** solves all problems in ponds with just one product per step.



**Step 1**



**Step 2**

- ✓ with improved active agent formula
- ✓ easy and effective application
- ✓ scientifically tested



**Step 3**



**Step 4**



Wrong water parameters, diseases and, above all, algae are the main problems in ponds. In such cases, the pond care system for permanently unspoiled pond joy provides support.

## Testing water parameters

### Water parameters alright

#### Water care

1. Stabilize water
2. Condition water
3. Create an equilibrium
4. Activate filter media

### Water parameters not alright

#### Optimize water parameters

1. Stabilize water
2. Remove pollutants
3. Supply oxygen
4. Prevent cloudiness

#### Remove algae

1. Stabilize water
2. Combat thread algae/ floating algae
3. Limit nutrients
4. Prevent growth

#### Cure diseases

1. Stabilize water
2. Prepare water
3. Treat diseases
4. Remove remainders

# Water testing

Knowing the relevant water parameters is the basic precondition for providing optimal environmental conditions for the inhabitants of the pond biotope throughout the year.

In case the levels are outside the recommended range, you can immediately correct them.



## KH

0°d



3°d



6°d



10°d



15°d



20°d



## Testing the KH value

Completely immerse test strip into the water. Pull out of the water after 1 second and shake off water. Wait 60 seconds for color stabilization. Compare colors on the test strip to the color chart in daylight.



### KH above 5

The water is stable and can be maintained or treated.

### KH below 5

The water is not stable and must be stabilized with **sera pond bio balance** before maintenance or treatment.



Water care

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Optimize water parameters

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Remove algae

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Cure diseases

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item no. 7715



## Recommended levels for pond water

Water parameter	Importance	Desired value
pH value	All creatures in ponds react sensitively towards pH value changes. A neutral (7) to slightly alkaline (8) pH value is optimal for the pond inhabitants. Sudden pH value changes (such as rapidly sinking pH value) are very dangerous.	6.5 – 8.5
Total hardness (GH)	It is formed by the entirety of alkaline earth ions and serves as a mineral source for all pond inhabitants.	6 – 16°dGH
Carbonate hardness (KH)	The KH is defined by the hydrogen carbonate ion concentration in the water. Sufficiently high KH (at least 5°dKH) reliably buffers dangerous pH value variations.	5 – 10°dKH
Oxygen level (O <sub>2</sub> )	Essential for all pond inhabitants for breathing, but also important for breakdown processes. Saturation changes according to the time of day (deficiencies mainly at night and in the morning) due to photo synthesis. Good water agitation and cooler temperatures support saturation.	> 4 mg/l (better > 6 mg/l)
Ammonium/ Ammonia (NH <sub>4</sub> /NH <sub>3</sub> )	Waste and breakdown product, a component of the nitrogen cycle and at the same time a dangerous fish poison. Good biological activity provided, ideally not detectable.	< 0.5 mg/l (better 0)
Nitrite (NO <sub>2</sub> )	Waste and breakdown product, a component of the nitrogen cycle and also a dangerous fish poison. Good biological activity provided, ideally not detectable.	< 0.5 mg/l (better 0)
Nitrate (NO <sub>3</sub> )	Waste and breakdown product, a component of the nitrogen cycle. Hardly toxic plant nutrient that, however, supports algae growth in higher concentrations.	< 50 mg/l
Phosphate (PO <sub>4</sub> )	Waste and breakdown product. Hardly toxic plant nutrient that, however – especially in higher concentrations –, is the most important support for uncontrolled algae growth.	< 1 mg/l
Copper (Cu)	Heavy metal already toxic in low concentrations, but also essential trace element as well as effective agent in some treatments and biocides.	< 0.1 mg/l



# Water care

Water quality is the crucial factor for all pond inhabitants doing well. Environmental influences, such as rain and organic pollution, alter water parameters and may lead to imbalance. Directed pond water maintenance allows stabilizing the water parameters lastingly and without much effort, thus preventing problems in the first place.

## Step 1

### Stabilize water:

#### sera pond bio balance

Stable water parameters are the basic precondition for fish friendly, clear water. **sera pond bio balance** stabilizes the water parameters by gently increasing the carbonate (KH) and total (GH) hardness and thus prevents dangerous pH value variations (especially rapidly sinking pH value).



Application:

In case of carbonate hardness below 5

After rainfalls, partial water changes and new setups

## Step 2

### Condition water:

#### sera KOI PROTECT

Every rainfall and every partial water change may lead to heavy metals and chlorine getting in. **sera KOI PROTECT** quickly and effectively traps these pollutants as well as toxic ammonia. Newly added water is therefore immediately converted into fish friendly pond water.



### Step 3

## Create an equilibrium:

### sera pond bio nitrivec

The dangerous toxic substances ammonium and nitrite are permanently formed in ponds as waste and breakdown products. The liquid biofilter medium **sera pond bio nitrivec** contains purification bacteria that break down these toxic substances and re-establish the biological equilibrium.



After cleaning the filter, partial water changes, new setups and for normal care

After cleaning the filter, filter changes or new setups

### Step 4

## Activate filter media:

### sera pond filter biostart

Useful filter bacteria are lost every time you clean the filter. **sera pond filter biostart** contains filter bacteria and immediately activates the filter material. The pond remains clean and maintenance efforts are considerably reduced.



# Optimize water parameters

## Step 1

### Stabilize water:

#### **sera pond bio balance**

Stable water parameters are the basic precondition for clean, clear water. Also, optimization of water parameters is possible only in stable water. **sera pond bio balance** stabilizes the water parameters by gently increasing the carbonate (KH) and total (GH) hardness, and accordingly prepares your pond for water parameter optimization.



In case of carbonate hardness below 5

In case of acute pollution

Normal pond care is sometimes not sufficient. Destabilizing factors, such as overstocking, disease treatments, pollutants getting in, or larger maintenance measures, may lead to acutely dangerous pollution peaks that must be dealt with immediately. The **sera pond care system** provides suitable, effective immediate help for these cases.

## Step 2

### Remove pollutants:

#### **sera pond toxivec**

Massive pollution peaks with ichthyotoxic pollutants such as ammonia, nitrite, heavy metals or chlorine may occur in pond water due to adverse weather conditions, overstocking or disease treatments. In such emergency situations, **sera pond toxivec** immediately removes the toxic substances and thus allows the pond to regenerate naturally.





### Step 3

## Supply oxygen:

### sera pond O<sub>2</sub> plus

Breathing as well as natural breakdown processes in ponds constantly consumes oxygen. Under special conditions, such as very warm weather or plenty of decomposing organic material, life-threatening oxygen deficiencies may occur. **sera pond O<sub>2</sub> plus** immediately and effectively removes oxygen deficiencies, provides the pond inhabitants with oxygen and thus reduces fish stress.



### Application:

In case of  
acute oxygen  
deficiencies

In case of  
strong sunlight

### Step 4

## Prevent cloudiness:

### sera pond bio humin

Natural shade for the pond is not always possible. This may lead to excess and therefore dangerous sunlight especially during the hot summer months and in clear water. Fish swimming at the surface may suffer from sunburns. Algae growth is also strongly enhanced by direct sunlight. **sera pond bio humin** filters the harmful UV irradiation and shades the pond.



# Remove thread algae

Occurring thread algae are basically an indicator for healthy and clean water. Something is wrong only if they spread too strongly. The algae then cause considerable problems: Fish get trapped in the ugly fluff-like mats near the edges, plants are being overgrown and hardly can grow any more, decoration items and technical equipment are covered until they are unusable, and dead algae material pollutes the water.

## Step 1

### Stabilize water:

#### **sera pond bio balance**

Stable water parameters are the basic precondition for clean, clear water. Also, algae removal is possible only in stable water. **sera pond bio balance** stabilizes the water parameters by gently increasing the carbonate (KH) and total (GH) hardness, and accordingly prepares your pond for algae removal.



In case of  
carbonate hardness  
below 5

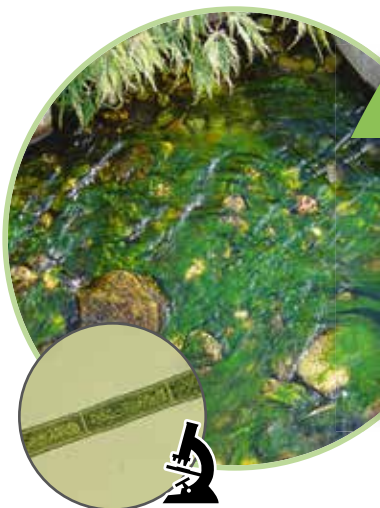
In case of  
acute  
thread algae growth

## Step 2

### Combat thread algae:

#### **sera pond algokill\***

Especially strong sunlight or enriching algae nutrients may lead to strong thread algae multiplication. They do not only obstruct sight and disturb the swimming fish, but also may be a considerable pond water pollution. **sera pond algokill\*** removes the thread algae by releasing active oxygen.





### Step 3

## Limit nutrients:

### **sera pond phosvec**

Algae nutrients – especially phosphate – may quickly enrich in closed pond systems. **sera pond phosvec** immediately and lastingly binds phosphate and thus limits excess nutrients. Nutrient competition prevents and lastingly stops excess algae growth.



Application:

In case of too high nutrient supply

In case of reoccurring algae growth

### Step 4

## Prevent algae growth:

### **sera pond algenstop\***

In spite of all efforts, some ponds again and again suffer from increased algae growth. **sera pond algenstop\*** avoids algae growing anew and prevents algae growth. Due to its composition, new algae growth is being prevented lastingly for a period of up to 6 weeks.



**Advice:** The modern, effective **sera UV-C systems** provide an elegant alternative in case of reoccurring algae problems and for the permanent reduction of infection threat – for crystal clear water and healthy fish.



# Remove floating algae

Floating algae also must be present in every live, healthy water. However, several factors getting together, especially in summer, may lead to sudden mass multiplication – an algae bloom. The previously clear water becomes green and

cloudy. This not only leads to submerged plants being insufficiently supplied, but also to strong water pollution by dead algae and the corresponding dangerous oxygen consumption.

## Step 1

### Stabilize water:

#### **sera pond bio balance**

Stable water parameters are the basic precondition for clean, clear water. Also, algae removal is possible only in stable water. **sera pond bio balance** stabilizes the water parameters by gently increasing the carbonate (KH) and total (GH) hardness, and accordingly prepares your pond for algae removal.



In case of carbonate hardness below 5

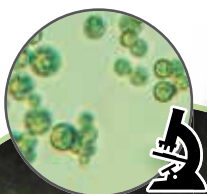
In case of acute floating algae growth

## Step 2

### Combat floating algae:

#### **sera pond crystal\***

An algae bloom caused by floating algae often disturbs the clear view on the pond fish especially during summer months. Cloudiness quickly leads to pond water imbalance and endangers the pond inhabitants. **sera pond crystal\*** provides quick support. The floating algae coagulate and then can be trapped and removed by the filter.



\*Use biocides safely. Always read the label and product information before use.

## Step 3

### Limit nutrients:

#### sera pond phosvec

Algae nutrients – especially phosphate – may quickly enrich in closed pond systems. Algae will then grow in an uncontrolled way due to the excess nutrient supply. **sera pond phosvec** immediately and lastingly binds phosphate. Nutrient competition prevents and lastingly stops excess algae growth.



Application:

In case of too high nutrient supply

In case of reoccurring algae growth

## Step 4

### Prevent algae growth:

#### sera pond algenstop\*

In spite of all efforts, some ponds again and again suffer from increased algae growth. **sera pond algenstop\*** avoids algae growing anew and prevents algae growth. Due to the specific composition, new algae growth is being prevented lastingly for a period of up to 6 weeks.



**Advice:** The modern, effective **sera UV-C systems** provide an elegant alternative in case of reoccurring algae problems and for the permanent reduction of infection threat – for crystal clear water and healthy fish.

# Cure diseases

Pathogens are often present in ponds as entirely normal components of a living community, but they can also be introduced by newly added fish and plants. Since ponds are usually inhabited by more and bigger fish than comparable natural waters, the often unfavorable water conditions may support the outbreak and massive spreading of diseases. Diseases not treated can destroy the entire fish stock of a pond within shortest time.



## Step 1

### Stabilize water:

#### **sera pond bio balance**

Stable water parameters are the basic precondition for clean, clear water. Also, disease treatment is possible only in stable water. **sera pond bio balance** stabilizes the water parameters by gently increasing the carbonate (KH) and total (GH) hardness, and accordingly prepares your pond for the disease treatment.



In case of  
carbonate  
hardness  
below 5

Before  
disease treatments  
and in case  
of stress

## Step 2

### Prepare water:

#### **sera pond ectopur**

Diseases always mean stress for the fish. The salt blend **sera pond ectopur** releases active oxygen, increases salinity and thus reduces the stress of the pond inhabitants. Disease treatment is prepared and supported.





### Step 3

## Treat diseases:

**sera pond cyprinopur**  
**sera pond omnisan**  
**sera pond omnipur**

Disease outbreaks can be reduced by good keeping conditions, but unfortunately never entirely excluded. Quick reaction is required when the fish are ill. **sera** offers a full range of effective treatments for treating the most common diseases of pond fish. Due to their wide application range, **sera pond cyprinopur** (for disinfection), **sera pond omnisan** (against ectoparasites) as well as **sera pond omnipur** (against bacteria and fungal infections) are particularly easy to use in ponds, where precise diagnoses are not always possible.

Application:

In case  
the fish inhabitants  
are ill

After a disease  
treatment

*Advice: The guide booklet  
"Healthy pond fish" provides  
more specific advice for using  
the **sera** preparations correctly  
and safely.*

### Step 4

## Remove remainders:

**sera pond super carbon**

After a disease treatment, the remainders should be removed as quickly and as entirely as possible. This avoids unnecessary water pollution. The highly active special active carbon **sera pond super carbon** removes not only treatment remainders but also other dangerous toxic substances, which for instance can be washed in unnoticed by rainfalls (environmental pollutants, fertilizer components, herbicides, pesticides, among others) quickly and without affecting the pH.



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solves all problems in ponds  
with just one product per step.

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3. sera bio nitrivec
4. sera filter biostart

### Water parameters not alright

#### Optimize water parameters

1. sera bio balance
2. sera toxivec
3. sera O<sub>2</sub> plus
4. sera bio humin

#### Remove algae

1. sera bio balance
2. sera algokill  
sera crystal
3. sera phosvec
4. sera algenstop

#### Cure diseases

1. sera bio balance
2. sera ectopur
3. sera cyprinopur  
sera omnisan  
sera omnipur
4. sera super carbon

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For natural garden ponds

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