

Beat the weed

Now you know all about blanket weed, it's time to find out the best way to get rid of the stuff. Adrian Love tests six ways to bust that weed



Blanket weed: The bane of every fishkeeper – but it can be controlled

Blanket weed is an algae which, with enough light and nutrients, can grow in ponds to epidemic proportions. In response to this plague a multitude of remedies are marketed claiming to rid ponds of blanket weed. The purpose of this study was to test if the treatments were as effective as claimed, and discover their merits and flaws.

The products used to treat blanket weed can be grouped as mechanical, chemical, biological or 'other' treatments. Many are promoted as 'natural', but this is a vague term meaning they may add nothing to the water, or it may mean that they rely on 'natural' processes to combat the algae.

Biological treatments

The nutrients that blanket weed needs to grow

(nitrogen and phosphorous) are often found in excess in ponds, because decaying organic matter releases ammonia (NH₃) and mains water is often rich in nitrates (NO₃) and phosphates (PO₄). If these nutrients are removed, the blanket weed starves to death. This is the principle behind biological treatments that contain benign bacteria which use essential nutrients before the blanket weed can.

Chemical treatments

Chemical treatments form a broad class and include the addition of chemicals that actively kill algae (algaeicides).

Copper is a well-known algaeicide. It is toxic to all life in sufficient quantities, but minute doses are used to poison blanket weed. In the

US copper sulphate is sprayed onto ponds, but UK environmental laws prohibit such use. However some products that release trace quantities of copper into the water are allowed.

Algaeicides are often very general and may affect all aquatic plants. And if plants are removed before treatment, there is a risk of reintroducing strands of blanket weed when plants are reinstated.

Other chemical treatments include non-toxic dyes that don't chemically



Adrian Love is a lecturer in Aquatics at Brookby Melton College. He has degrees in aquaculture and fish biology and years of experience in aquatics. With the help of colleagues and students, Adrian analyses aquatic products and issues.

We test... blanket weed treatments



Pondweeder

Price **£119 – £165 (depending on size)**
Contact **Bubbles Aquatics 01664 560220**

Manufacturer's claim 90-day no-quibble money-back guarantee. It may take 12 weeks to see the full effects on your pond.
Pack contents Unit supplied as 30mm – 62mm diameter coils, so it can be ordered to fit your existing pipework.

How does it work? The unit emits electromagnetic radiation which prohibits the growth of blanket weed.

Application Fairly straightforward. Disconnect the filter pipe and slide the pondweeder over, reconnect and wire in to electricity supply.

Supplied instructions Perfectly adequate.
Cost per 100l treated About £1 plus running cost (£2 – £3 a year) but will last for at least five years.

Our verdict Worked fine but probably needed longer running time. May be particularly effective in areas of very hard water (high levels of calcium carbonate). Harmless to fish and aquatic plants. Compact and discrete.

Rating ★★★★★



Water King

Price **£110**
Contact **Lifescience Products Ltd 01235 832111**

Manufacturer's claim Doesn't remove blanket weed, but can control it. It might take seven weeks to see the full effects, though growth of blanket weed should stop altogether in 10 days.

Pack contents Unit with transformer and two cables to wrap around the pipe.

How does it work? By using electromagnetic radiation.

Application Coil wires around your existing pipe work and connect it to the electricity supply.

Supplied instructions Perfectly adequate.
Cost per 100l treated 61p plus running costs; again, spread over a period of at least five years.

Our verdict Worked quite well. Only had a fraction of the recommended treatment time. The long treatment time might put off some pond and Koi keepers. Compact and discrete and harmless to fish and aquatic plants.

Rating ★★★★★



Aquastar

Price **£506.38**
Contact **East Riding Koi Company 01262 850270**

Manufacturer's claim Completely removes all traces of blanket weed in 10 – 28 days.

Pack contents A very large unit. It contains pre-filter, and three treatment columns.

How does it work? Pre-filter removes suspended solids. Column one contains FDF, which releases copper; column two removes excess copper and heavy metals. Column three removes organic substances.

Application Fitted on mains supply. Pond must be drained and refilled by 20 per cent for seven days and filter left running constantly with overflow running to waste outlet.

Supplied instructions Instructions incomplete, consequently fitted incorrectly.

Cost per 100l treated £4 (plus water charges if metered). Columns last 18 months.

Our verdict Worked well in one pond, poorly in the other. Cleared green water and killed blanket weed even with incorrect usage. Very expensive, only suitable where water can flow through pond. May affect all aquatic plants. Pondkeepers may not be happy with releasing copper (a toxin) into the water.

Rating ★★☆☆☆



The weed lined up ready - who'd have thought someone would want to grow the stuff!

Testing conditions

Water quality was standard and constant. Tap water provided abundant nutrients in the form of nitrates – 50mg/l, phosphates 0.1mg/l, pH 8, 6°GH. To test a worst-case scenario ponds had fertiliser, ammonium phosphate, added at 15mg/l at the start and half way through the trial.

Each product was tested twice. There were two 'control' ponds that received no treatment. All ponds were in full sunlight all day. 200g of blanket weed was added to each pond before treatment.

Treatments needing longer time will remain on trial for six more weeks, and an update will appear in K,P&G.

affect the water or algae, but colour the pond water, reducing the amount of light that penetrates. Submerged plants, including blanket weed, cannot photosynthesise so well and effectively starve to death.

Mechanical treatments

Mechanical treatments include the use of electromagnetic (EM) radiation generated by encasing a section of pipe with a device that produces EM pulses when electric current is passed through it. How EM radiation effects blanket weed is not certain. It is known the radiation alters the balance of calcium bicarbonate and calcium carbonate ions in the water, tending to encourage the latter. One theory is based on the fact that carbonate

We test... blanket weed treatments



Nishicare

Price **£5.50**
Contact **Nishikoi 01371 851424**

Manufacturer's claim A non-toxic combination of natural dyes to control algae and blanket weed in your pond which is harmless to filter bacteria, pond plants, fish, birds and amphibians.

Pack contents 250ml bottle

How does it work? The dye colours the water slightly so that the blanket weed then has reduced light to use for photosynthesis, and consequently starves.

Application Easy to use, with a dosing system built into the bottle top.

Supplied instructions Perfectly adequate.

Cost per 100l treated 4p (per dose).

Our verdict Seemed to work very well considering most of our blanket weed was floating so was therefore relatively unaffected by reducing the light penetrating the water. Some Koi keepers may not like their water having a blue/green tint.

Rating ★★★★★



Kusuri Eco-pure

Price **£12.95**
Contact **Kusuri Products 01626 879000**

Manufacturer's claim Aids flocculation of suspended solids, degrades sludge, lowers PO₄ and NO₃ inhibiting algal growth. Takes two to four weeks to work.

Pack contents 1.25kg tub of powder

How does it work? Contains dried, nutrient-consuming bacteria.

Application Dissolve required dose into your pond water or direct onto blanket weed itself. Repeat weekly doses as necessary. You can double the dose in the first month of treating your pond.

Supplied instructions Perfectly adequate.

Cost per 100l treated 7p (per dose).

Our verdict The least expensive treatment of all the products on trial. It was possibly not given its full treatment time but nevertheless, it did appear that blanket weed in the pool had started to die.

Rating ★★★★★



Viresco Koi

Price **£11.25**
Contact **John McLauchlan 01845 525585**

Manufacturer's claim Suppresses blanket weed and algae bloom. Improves digestion and the health of your fish. Offer a money-back guarantee.

Pack contents 5g – 10g packs available. Also available from the same company 'Viresco Aqua' for less specialised ponds.

How does it work? Contains dried, nutrient-consuming bacteria.

Application Mix dose with pond water. May require repeat application.

Supplied instructions Perfectly adequate.

Cost per 100l treated 8p (per dose) may last a few months to a year.

Our verdict Easily applied. Worked brilliantly in one pond, not so well in another. Needed repeat application.

Rating ★★★★★

is insoluble so calcium is taken temporarily out of solution. It is thought that limescale is necessary for blanket weed as an anchor on which to attach itself to the pond wall and to add structure to its cells walls.

Another theory is that a change in calcium equilibrium causes the plant's cell walls to be more permeable to calcium. This increases their metabolism so that the weed outgrows its resources and dies. A word of warning: in the winter blanket weed growth slows, and these controllers may stimulate growth so should be switched off until spring.

Consistent comparisons

Six products were chosen for the blanket weed tests: two mechanical, two chemical and two

biological treatments. They were randomly assigned to 14, 100l plastic pools filled with tap water. On the first day of treatment the water quality was assessed and the weight of the blanket weed checked in each, before the treatment. The treatments were then applied and reapplied as detailed in all the manufacturer's instructions.

At the end of the two-week trial, the blanket weed in each pond was weighed. By comparing this weight with the weight before treatment we were able to say quantitatively how effective the products were.

With help from colleagues Ian Wellby and Andrew Beal, and National Diploma students, the products could be assessed on how easy they were to use and how well they worked.

Did you know?

- Algae can be found wherever there is moisture, from oceans to marshes, hot springs to glaciers.
- Algae range in size from one thousandth of a mm. to 100m.
- They produce 80 per cent of the world's oxygen through photosynthesis.
- Researchers in California are investigating the possibility of exploiting pond algae's extraordinary growth and metabolic products to power cars and generate electricity.
- Several species of algae are known as blanket weed (for example: *Spirogyra*, *Cladophora* and *Ulothrix*); they can be distinguished by their texture.