



- [GOAL Events](#)
- [Advocate Magazine](#)
- [Aquademia Podcast](#)
- [Blog](#)
- [Contact](#)

-
-
-
-
-

- [Log In](#)



- [About](#)
 - [Who We Are](#)
 - [Our History](#)
 - [Our Team](#)
 - [Sustainable Development Goals](#)
 - [Careers](#)
- [Membership](#)
 - [Overview](#)
 - [Our Members](#)
 - [Corporate Membership](#)
- [Resources](#)
- [Certification](#)
 - [Best Aquaculture Practices](#)
 - [Best Seafood Practices](#)

Search...



[Log In](#)

- [About](#)
 - [Who We Are](#)
 - [Our History](#)
 - [Our Team](#)
 - [Sustainable Development Goals](#)
 - [Careers](#)
- [Membership](#)
 - [Overview](#)
 - [Our Members](#)
 - [Corporate Membership](#)
- [Resources](#)
- [Certification](#)
 - [Best Aquaculture Practices](#)
 - [Best Seafood Practices](#)
- [GOAL Events](#)
- [Advocate Magazine](#)
- [Aquademia Podcast](#)
- [Blog](#)
- [Contact](#)



Health & Welfare
Health & Welfare

Bivalent vaccine protects yellowtails, amberjack against pasteurellosis



1 May 2008 Y. Wada, M.S. T. Oyamatsu, Ph.D. J. Ng L. Labrie, DVM C. Komar, DVM Z. Tan, DVM, Ph.D. L. Grisez, Ph.D. B. Sheehan, Ph.D. A. Taneno, DVM



U.S.-origin bacterial septicemia can result in significant mortality



Field trials confirmed the efficacy of the authors' bivalent vaccine.

Pseudotuberculosis, or pasteurellosis, caused by the halophilic bacterium (*Photobacterium damsela*) subspecies *piscicida* (*P. piscicida*) is a bacterial septicemia that can result in significant mortality and economic loss in a variety of cultured fish. First identified in wild fish populations in the United States in 1963, it has since been recognized as a major pathogen of farmed fish in various European countries and Japan. In addition, the authors' recent epidemiological investigations found *P. piscicida* in farmed cobia in Taiwan and in a variety of cultured species in China, including fingerling and larger seabream, snapper and pompano.

Although efficacious antibiotics to combat *P. piscicida* infection are available, alternative health management systems can help ensure the long-term sustainability of the affected species' industries.

Yellowtail, amberjack vaccine

Pasteurellosis occurs in yellowtail and amberjack in the Japanese fish culture industry. The disease, which occurs predominantly during the summer months, is most prevalent in fish of more than 10 grams. Mortality attributable to *P. piscicida* can range 5 to 50 percent. Despite the significant economic importance of this pathogen to the Japanese fish industry, there were no effective vaccines against it in Japan.

The authors therefore developed a safe and efficacious combination vaccine against *P. piscicida* infection and (*Lactococcus garvieae*) infection for use in yellowtail and amberjack culture. Field trials of the vaccine held between 2002 and 2005 were followed by further laboratory studies. Regulatory approval was obtained in Japan in December 2007, and the vaccine will be available this summer.

Challenges, results

The onset of immunity against *P. piscicida* infection in 31-gram yellowtails reared at 22 ± 2 degrees-C was investigated by weekly experimental challenge after the individual fish received a single intraperitoneal vaccination with the prototype oil-based bivalent vaccine.

Although minor effects were seen after the exposure at one week, maximum protection against pasteurellosis appeared three weeks after vaccination (Fig. 1), when vaccination reduced mortality from 100 percent in control fish to 30 percent in vaccinated fish.

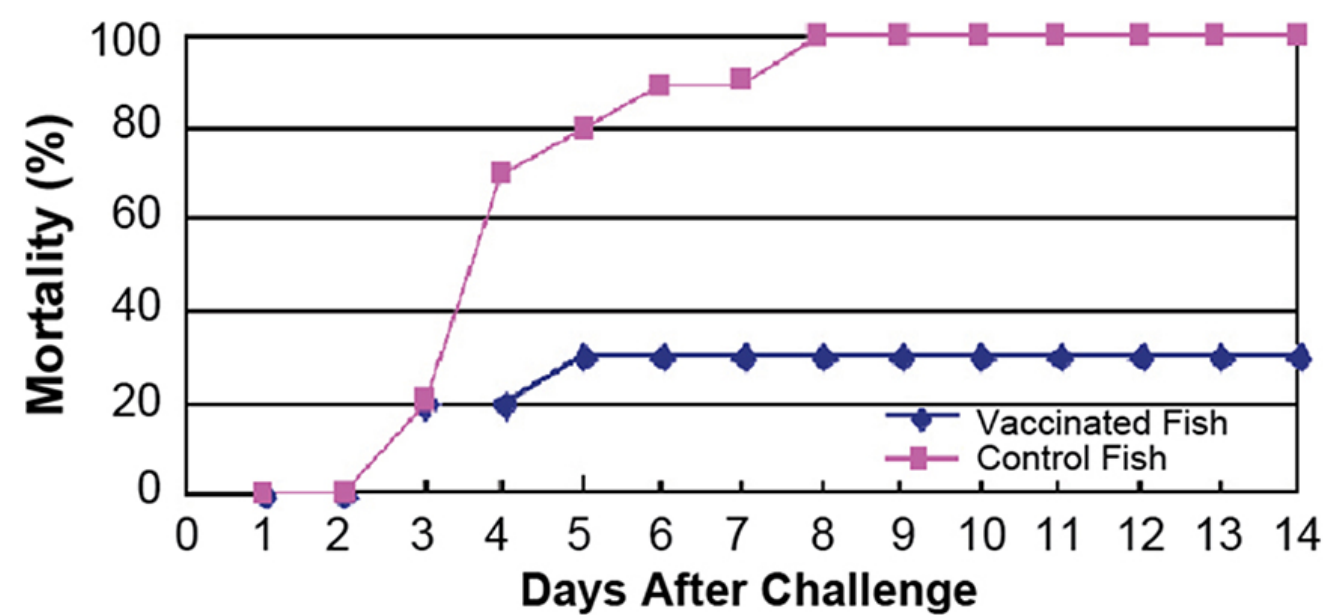


Fig. 1: Mortality of vaccinated yellowtails challenged after three weeks with *P. piscicida*.
Twelve weeks after vaccination, *P. piscicida* mortality in the control fish was 100 percent, while no mortality was observed in the vaccinated population. Protection against *L. garvieae* was also acquired one week after vaccination (Fig. 2).

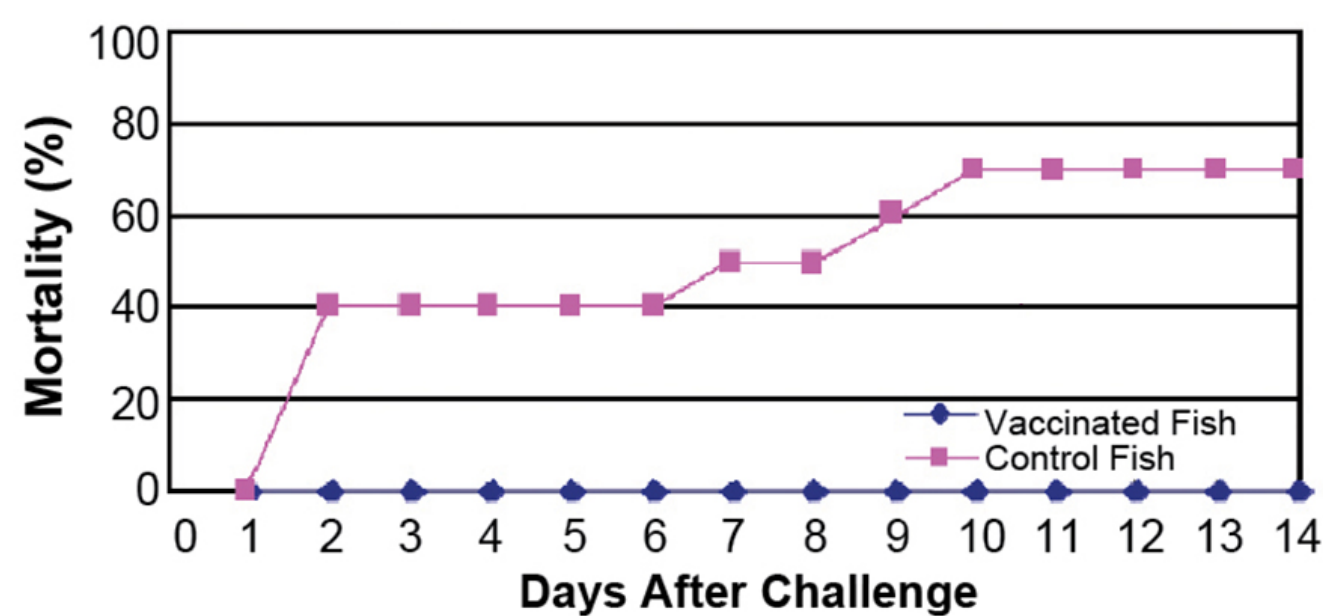


Fig. 2: Mortality of vaccinated yellowtails challenged after one week with *L. garvieae*.
Similar results were obtained in amberjack. Trials at three farms in Japan confirmed the safety and efficacy of the vaccine in yellowtails and amberjack in the field. Results from two farms are shown in Figs. 3 and 4.

Fig. 3: Daily mortality in a field trial of bivalent vaccine in yellowtails. Color bars indicate prevalent periods for disease conditions.

Fig. 4: Cumulative mortality in the field trial.

(Editor's Note: This article was originally published in the May/June 2008 print edition of the Global Aquaculture Advocate.)

Now that you've finished reading the article ...

... we hope you'll consider supporting our mission to document the evolution of the global aquaculture industry and share our vast network of contributors' expansive knowledge every week.

By becoming a Global Seafood Alliance member, you're ensuring that all of the pre-competitive work we do through member benefits, resources and events can continue. Individual membership costs just \$50 a year.

Not a GSA member? Join us.

[Support GSA and Become a Member](#)

Authors

-  Y. Wada, M.S.

Y. Wada, M.S.

Intervet K.K.
1103 Fukaya, Kasumigaura-shi

Ibaraki 300-0134 Japan

[109,111,99,46,116,101,118,114,101,116,110,105,64,97,100,97,119,46,117,98,111,110,105,104,115,111,121]

-  T. Oyamatsu, Ph.D.


T. Oyamatsu, Ph.D.

Intervet K.K.
1103 Fukaya, Kasumigaura-shi
Ibaraki 300-0134 Japan

-  J. Ng

J. Ng

Intervet K.K.
1103 Fukaya, Kasumigaura-shi
Ibaraki 300-0134 Japan

-  L. Labrie, DVM


L. Labrie, DVM

Intervet K.K.
1103 Fukaya, Kasumigaura-shi
Ibaraki 300-0134 Japan

-  C. Komar, DVM

C. Komar, DVM

Intervet K.K.
1103 Fukaya, Kasumigaura-shi
Ibaraki 300-0134 Japan

-  Z. Tan, DVM, Ph.D.


Z. Tan, DVM, Ph.D.

Intervet K.K.
1103 Fukaya, Kasumigaura-shi
Ibaraki 300-0134 Japan

-  L. Grisez, Ph.D.

L. Grisez, Ph.D.

Intervet K.K.
1103 Fukaya, Kasumigaura-shi
Ibaraki 300-0134 Japan

-  B. Sheehan, Ph.D.

B. Sheehan, Ph.D.




Intervet K.K.
1103 Fukaya, Kasumigaura-shi
Ibaraki 300-0134 Japan

-  A. Taneno, DVM

A. Taneno, DVM

Intervet K.K.
1103 Fukaya, Kasumigaura-shi
Ibaraki 300-0134 Japan

Share

-  [Share via Email](#)
-  [Share on Twitter](#)
-  [Share on Facebook](#)

- [in Share on LinkedIn](#)

Tagged With

[Y. Wada](#) [T. Oyamatsu](#) [J. Ng](#) [Z. Tan](#) [B. Sheehan](#) [A. Taneno](#) [yellowtails](#) [Amberjack](#) [pasteurellosis](#) [L. Labrie](#) [bivalent vaccine](#) [C. Komar](#) [L. Grisez](#)

Related Posts

Health & Welfare

[Novel soy proteins, oils replace fishmeal to achieve FIFO under 1:1 in amberjack](#)

In a nutrition trial, longfin amberjack received two diets composed of 40 percent soy protein concentrate and 10 percent fishmeal, and a control diet with 20 percent fishmeal.

Health & Welfare

[Marine fish culture in Mexico](#)

Mexico has a wide diversity of areas and water temperatures that are suitable for a variety of aquaculture species.

Innovation & Investment

[Mucosal mapping architect wins aquaculture innovation award](#)

Quantidoc AS in Norway is the commercialization of Prof. Karin Pittman's years of fish health research. Pittman, winner of this year's Global Aquaculture Innovation and Leadership Award, utilizes stereology to measure and better understand mucous on gill, gut and skin tissues – the first line of defense for fish.

Innovation & Investment

[Offshore aquaculture inches closer to reality in the Gulf of Mexico](#)

New U.S. policies for offshore aquaculture permitting will soon be put to the test in the Gulf of Mexico. With imported products dominating the U.S. seafood landscape, some argue the time has come for the industry to take a leap forward.

About The Advocate

The Responsible Seafood Advocate supports the Global Seafood Alliance's (GSA) mission to advance responsible seafood practices through education, advocacy and third-party assurances.

[Learn More](#)

Search Responsible Seafood Advocate



Advertising Opportunities

[2022 Media & Events Kit](#)

Categories

[Aquafeeds](#) > [Health & Welfare](#) [Health & Welfare](#) > [From Our Sponsors](#) > [Innovation & Investment](#) > [Intelligence](#) > [Responsibility](#) > [Fisheries](#) > [Artículos en Español](#) >

Don't Miss an Article

Featured

- [Health & Welfare](#) [An update on vibriosis, the major bacterial disease shrimp farmers face](#)
- [Intelligence](#) [A seat at the table: Fed By Blue team says aquaculture needs a stronger voice](#)
- [Responsibility](#) [Quantifying habitat provisioning at macroalgae cultivation locations](#)

Popular Tags

All Tags ▼






Recent

- [Fisheries](#) [Second Test: Another filler for the fisheries category](#)
- [Fisheries](#) [Test: This is filler for the fisheries Category](#)
- [Aquafeeds](#) [Test Article](#)
- [Responsibility](#) [Study: Climate change will shuffle marine ecosystems in unexpected ways as ocean temperature warms](#)
- [Health & Welfare](#) [Indian shrimp researchers earn a patent for WSSV diagnostic tool](#)



- [About](#)
- [Membership](#)
- [Resources](#)
- [Best Aquaculture Practices \(BAP\)](#)
- [Best Seafood Practices \(BSP\)](#)
- [GOAL Events](#)
- [Advocate Magazine](#)
- [Aquademia Podcast](#)
- [Blog](#)
- [Contact](#)

Stay up to date with GSA

- 
- 
- 
- 
- 

Copyright © 2024 Global Seafood Alliance
All rights reserved.

[Privacy](#)

[Terms of Use](#)

[Glossary](#)