EFFECTIVENESS TEST OF MIMBA EXTRACT *(Azadirachta indica A. Juss.)* AGAINST PARASITE ON TILAPIA FISH SEED *(Oreochromis niloticus)* AT FISH SEED OFFICE, PENEBEL, TABANAN REGENCY, BALI PROVINCE

Sang Ayu Made Putri Suryani[1], Anak Agung Sagung Risa Andriani[2], I Wayan Arya[1]

[1.]Water Resource Management Warmadewa University Denpasar 80239 Indonesia
[2.]Agrotechnology Warmadewa University Denpasar 80239 Indonesia
email: suryanip@rocketmail.com and putri_risa69@yahoo.com

Abstract

Mimba leaf *(Azadirachta indica A. juss.)* is good for sanitation and disease control at the fish seed. Mimba leaf contains many compounds that can be an antiseptic, antivirus, antibacterial and antiparasite. The purpose of this research is to know kind of ectoparasite that attack Carp Fish seed in Fish Seed Office at Penebel and to know how much effective doses from Mimba leaf extract to wipe out parasite in Carp Fish seed. Disease countermeasures in Carp fish seed have done by using chemical especially antibiotic. Continual using chemical material will cause a negative impact on the fish, environment and also consumer. Using Mimba leaf as an organic disease control is a good choice. The result research by using Mimba leaf extract as antiparasite with different doses show deference effectiveness level. 15 ppm dose is the most effective to wipe out the parasite in Tilapia Fish where after soaked with mimba leaf extract seen that kind of ectoparasite that susceptible with mimba leaf extract are *Tricodina sp, Argulus sp, sp Gyrodactylus, Dactylogyrus sp, Myxobolus sp, sp Henneguya, and Oodinium spp.*

Keywords: Ectoparasite, *Oreochromis niloticus,* Mimba

BACKGROUND

Carp (Cyprinus carpio, L) including one commodity freshwater fisheries sector which continues to grow over time. Parasitic diseases are diseases caused by harmful organisms other organisms that act as its host. Examples of parasitic disease causing organisms, among others, viruses, bacteria, fungi, protozoa and nematodes (Sitanggang, 2012).According to Supriyadi and Taufik (1983), disease prevention methods by means of treatment has been widely commercialized. Chemicals and antibiotics have been widely used in the prevention of disease in fish, however, the use of these materials is continuous of course will cause negative effects for the environment, for the fish, and for consumers. By paying attention to these problems in an effort the treatment and control of pests and diseases of fish use natural ingredients or herbs into a very appropriate choice. One of the herbal ingredients that have the potential to be developed as a treatment and control of diseases of fish seed is Mimba leaves (*Azadirachta indica A. Juss.*) Because it contains many Mimba leaf compounds that can act as an antiseptic, antibacterial, antiviral and can kill many kinds of protozoa.

METHODS

The method used in this study are: the experimental method in which the data collected through experimentation and direct observation of the object observed. This research was conducted in Penebel Fish Seed Center, Tabanan, Bali province on March 22 to March 29, 2014.The collected data is recorded in the table and the pictures in particular to the data type of parasite, then newly identified. Results identification re-recorded in tabular form in

accordance with the classes and species of parasites found. In each dosage also is recording in a table that includes other types of parasites on each observation in the microscope. From all the data collected and discussed descriptively encompass the various libraries are there to be drawn to a conclusion.

RESULTS AND DISCUSSION

Seen that prior to soaking the seeds of Mimba leaf extract fish in the overall look that was discovered seven species of parasites in fish seed test consisting of: five classes, namely *Oligomenophorea*, Crustaceans, Trematodes Monogenia, Sporozoa, Myxosporea.

Table 1 Type Parasites found in Mimba Leaf Extract Dose Usage of 0 ppm

samples	Dose 0 ppm						
	type Parasites						
	Tricodina sp	*Argulus sp*	*Gyrodactylus sp*	*Dactylogyrus sp*	*Myxobolus sp*	*Henneguya sp*	*Oodinium spp*
1	+	+	+	+	+	+	+
2	+	+	+	+	+	+	+
3	+	+	+	+	+	+	+
4	+	+	+	+	+	+	+
5	+	+	+	+	+	+	+

Source: Research on Fish Seed Center (BBI) Penebel, 2014

Description: + : There

- : There is no

In the treatment with doses of 0 ppm, was found five species of parasites on the body of the fish seed samples and four species of parasites on the gills include: Tricodina sp from class *Oligomenophorea*, *Argulus sp* of crustaceans, *Gyrodactylus sp* from class *Trematoda Monogenia*, *Dactylogyrus sp* from the class *Trematoda Monogenia*, *Myxobolus sp* from class *Sporozoa*, *Henneguya sp* from class *Myxosporea*, and *Oodinium spp*.

Table 2 Type Parasites found in Mimba Leaf Extract Usage dose of 5 ppm

samples	Dose of 5 ppm (A)						
	type Parasites						
	Tricodina sp	*Argulus sp*	*Gyrodactylus sp*	*Dactylogyrus sp*	*Myxobolus sp*	*Henneguya sp*	*Oodinium spp*
A1	+	+	+	+	+	+	+
A2	+	+	+	+	+	+	+
A3	+	+	+	+	+	+	+
A4	+	+	+	+	+	+	+
A5	+	+	+	+	+	+	+

Source: Research on Fish Seed Center (BBI) Penebel, 2014

Description: + : There

- : There is no

After being given a soaking treatment at a dose of 5 ppm is not effective, by not showing a decline or all types of parasites are still found fish fry evenly on all samples. From

the observation of all types of parasites at a dose of 5 ppm is still alive either on the gills of fish seed and on the body.

Table 3 Type Parasites found in Mimba Leaf Extract Dose Usage to 10 ppm

Samples	A dose of 10 ppm (B)						
	type Parasites						
	Tricodina sp	*Argulus sp*	*Gyrodactylus sp*	*Dactylogyrus sp*	*Myxobolus sp*	*Henneguya sp*	*Oodinium spp*
B1	+	+	-	+	+	+	-
B2	-	-	-	+	-	+	-
B3	-	-	+	-	+	+	+
B4	+	-	-	-	+	-	+
B5	+	+	+	+	-	-	+

Source: Research on Fish Seed Center (BBI) Penebel, 2014

Description: + : There

- : There is no

In a sample of 10 ppm has been a reduction in the type of parasite that attacks fish seed samples, and the most obvious are the B2 sample just two of the parasite that is *Dactylogyrus sp*and Henneguya sp, while other samples still contain more than two kinds of parasites. Increasing the dose of 5 ppm to 10 ppm already show an increase in effectiveness, but until a dose of 10 ppm have not been able to eliminate all the parasites that infect fish seeds.

Table 4 Type Parasites found in Mimba Leaf Extract Usage dose of 15 ppm

Samples	A dose of 15 ppm (C)						
	type Parasites						
	Tricodina sp	*Argulus sp*	*Gyrodactylus sp*	*Dactylogyrus sp*	*Myxobolus sp*	*Henneguya sp*	*Oodinium spp*
C1	-	-	-	-	-	-	-
C2	-	-	-	+	-	-	-
C3	-	-	+	-	-	+	+
C4	-	-	-	-	-	-	+
C5	+	-	-	-	-	-	-

Source: Research on Fish Seed Center (BBI) Penebel, 2014

Description: + : There

- : There is no

At a dose of 15 ppm solution showed a very good result because there is no longer a parasitic organism, especially in samples C1, while the other samples still contain parasites are not more than three species of parasites. In the gills, still found parasitic organisms such as, Gyrodactylos sp, *Henneguya sp* and *Oodinium spp* in the sample C3, but all these parasites already dead, just not apart from the attack, *Oodinium spp* on samples C4 and C5 Tricodina sp in the sample also already dead. A dose of 15 ppm can be said to be very effective because it can kill all the organisms of parasites in fish seed samples.

Table 5 Type Parasites found in Mimba Leaf Extract Dose Usage to 20 ppm

samples	A dose of 20 ppm (D)						
	type Parasites						
	Tricodina sp	*Argulus sp*	*Gyrodactylus sp*	*Dactylogyrus sp*	*Myxobolus sp*	*Henneguya sp*	*Oodinium spp*
D1	-	-	-	-	-	-	-
D2	-	-	-	-	-	-	-
D3	-	-	-	-	-	-	-
D4	-	-	-	-	-	-	-
D5	-	-	-	-	-	-	-

Source: Research on Fish Seed Center (BBI) Penebel, 2014

Description: + : There

- : There is no

With the increase in the dose of 15 ppm to 20 ppm dose showed very high effectiveness in which the parasite both in body and gills are no longer found or nil on all seed samples of carp. This shows that the dose has been very significant improvement can kill the parasite.

CONCLUSIONS AND RECOMMENDATIONS

The conclusion that can be drawn from this study are:

1. Types of parasites found in each sample of the diversity of species vary both in body and gills. Overall the test fish seed found 7 species of parasite.
2. Types of parasites that can be controlled by the mimba leaf extract that is *Tricodina sp, Argulus sp, sp Gyrodactylus, Dactylogyrus sp, Myxobolus sp, sp Henneguya, Oodinium spp.*
3. Soaking at a dose of 20 ppm is the most effective in eradicating parasites, with no leaves 1 species on each sample.

From the results of the study suggest the following matters:

1. To combat parasitic fish seed by using extracts of mimba leaf is recommended to use a dose of 15 ppm, especially for farmers who have not skilled treat fish seed to make it safer, mainly to avoid the death of fish seeds of an overdose, but for those who are already skilled can use a dose of 20 ppm with treatment of dyeing system, because at a dose of 20 ppm is sufficiently high doses and if wrong in the handling can cause lethal effect/death of the fish.
2. There should also be research into the use of mimba leaf extract is in the adult fish, to get the effective dose. As well as the direct use of mimba leaves in the pools either for preventive maintenance as well as for treatment.

BIBLIOGRAPHY

Dogiel, V.A.G., G.K. Petrushevski dan I. Polyanski. 1970. *Parasitology of Fishes*. T.F.H. P ublisher, Hongkong. 384 p.

Grabda, J. 1981. *Marine Fish Parasitology*. VHC and PWN-Polish Scientific Publishers, New York. 66 p.

Kennedy, C.R. 1975. *Ecological Animal Parasitology*. Blackwell Scientific Publications, Oxford Ruskin. 1993. Pestisida Nabati. Ramuan Dan Aplikasi. P.T. Penebar Swadaya.

Sitanggang, Maloedyn. (2012). Overcoming Diseases and Pests At Goldfish. Jakarta: AgroMedia Reader.

Supriyadi, H. and P. Taufik. (1983). Preliminary research Fish In A Vaccination Immunization. Bull. Pen. PD .4 (1): 34-36.