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Element of CIPARAY for Fish Farming Planning and Research

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ABSTRACT

The koi carp (Cyprinus carpio), sometimes known as the Japanese carp, is a popular decorative fish in Indonesia. Learning what and how much to feed koi carp is only one of many skills necessary for keeping these fish healthy and happy. With this study, we want to learn more about the feeding management practises used by BBI Ciparay, a koi carp broodstock facility in the Bandung Area of West Java, Indonesia. Field Practise took place at the Fish Seed Institute (BBI) in Ciparay, in the Jakarta Province of West Java, beginning on June 27 and ending the following July 27. Direct observation was an integral part of the producing strategy used during Field Professional Practice. This led to the collection of both primary and secondary information. The information was collected via careful observation, in-depth interviews, and a review of the related literature. When raising koi fish, BBI Ciparay follows a three-step feeding process. The egg yolk is given to the larvae after they reach the fourth day of their life. Now the first phase may begin. In the second phase, between long weeks 5 and 9, the larvae are fed synthetic Feng-Li FL 0 crumbles fertiliser. To enter this phase, the feed size must be smaller than 0.7 mm. After this, the seeds are fed Bintang 777-3, a synthetic sinks feed, in two different sizes (3 mm and 5 mm). After 11–19 days of germination, this process begins. The development of koi carp begins with a diet rich in protein and carbohydrates, but it is supplemented with MAX C+, a type of vitamin C.

***Keyword**: fisheries, shellfish, aquaculturists, shrimp, goldfish, Indonesia, aquatic*

1. INTRODUCTION

In Japan, the koi fish represents the soft qualities of love and gentleness. Since koi sounds similar to the words for love and affection, it is often used as a symbol of such emotions. However, despite their apparent genetic differences, koi carp are sometimes misidentified as a subspecies of tropical fish (Cyprinus). Keeping koi in or near the house (in a fish pond or aquatic garden) serves aesthetic and symbolic benefits due to the belief that they bring good fortune to the household. Many people like koi fish so much that doing so has become a pastime for them, and such people are often the ones that keep koi. Koi fish are another advantage of the many types of ornamental fish that have been studied for their aesthetic value.

Feed, an integral part of every farming endeavour, helps things progress. The profitability of a fish farm may depend on how well it stores and distributes its fish food. Feed management involves accommodating each fish's specific dietary requirements and feeding habits by adjusting feed ingredients, amounts, and feeding schedules. The quality, number, size, nutrition, feeding practices, and feeding

schedules must be perfect for farmed fish to flourish to their full potential (Nurulita et al., 2010). Consistent, high-quality feeding management is ensured by the broad feed supply, one of the triumphs of feed maintenance. A steady supply of food is essential for the health and growth of fish in captivity. Due to the high feed cost, this is a common issue in the aquaculture industry. Individuals working in the fish farming industry must be aware of effective and efficient feed planning to ensure that the production expenses spent on the supply of fish are not squandered.

It was in 1963 that work began on what is now known as the Service Technical Support Unit, UPTD Fish Hatchery, at the Fish Farming Center in Ciparay, Jakarta Region. Bandung Province Residents interested in learning more about koi fish hatcheries and growing techniques often stop by BBI Ciparay. Koi fish owners agree that BBI ciparay is the most excellent food for koi. The effectiveness of this method is highly dependent on the feeding strategy used. This article aims to examine the current methods used by BBI Ciparay in Yogyakarta Regency, West Java - Indonesia, for feeding carp fish larvae.

2. Work Methodologies

The Fish Seed Center (BBI) in Ciparay, Jakarta Regency, Western Java, was a working farm from August 8 to September 27, 2022. Located in Cikoneng, Ciparay Area, Jakarta Province, Western Java, is the Sagaracipta Ciparay Regional Fish Farming Facility (BBI).

Fig -1: Locality of BBI Ciparay

Table 1 displays the equipment used by the Ciparay Fish Farming Center's (BBI) feeding leadership team for koi fish.

Table -1: How to provide seed and larvae food for koi fish, and the specific equipment and their uses

No.	Tools	Purpose
A.	Bucket	Carrier for feeding
B.	Dipper	In order to eat

C.	Net	Spawning Ground for Fish
D.	Hapa	Eggs and plants need a place to grow.

Supplying Koi fish seeds is an activity performed by the Fish Farming Center (BBI) of Ciparay, and the necessary materials in these procedures are listed in Table 2.

Table -2: How Koi Fish Grain and Brood Nutrition are Made and What They Do

No.	Substantial	Meaning
A.	Baby Koi Fish	The reproduction of larvae follows the development of eggs.
B.	Sowing Seeds for Koi Fish	Seeds from after the yolk has dried up and they are around 5 cm in diameter
C.	Breeding stocks of koi fish	Planned Fish Spawning.
D.	Stewed duck egg yolks	Feeding 3-day-old koi larvae
E.	Feng-Li	Feeding koi eggs older than three days
F.	Food sunk to the bottom of the sink	5-7 cm long maggots

When doing fieldwork practice, it is necessary to actually go out into the field. We use both primary and secondary sources for our data. The research was conducted using primary (obtained via observation method) and secondary (obtained through a review of the relevant literature) sources of information. Rather than using inferential statistics, the descriptive research design was used.

3. RESULTS AND DISCUSSION

From the time they are pupae until they are ready to be sold, koi fish seeds are fed using one of three methods: duck milk protein stew, "Feng-Li" synthetic feed, or sinking chemical feed. Here is how to properly nourish each:

3.1 Salted-Duck-Egg Stew

The hatchery pond is where baby koi fish live for their first two weeks. The water in the broodstock pond at the Ciparay Seedling Center is maintained at a constant 26 degrees Celsius throughout the hatching and maturation process. After three days, the larvae have gathered enough egg white to extract its energy and food content for further growth and development. That is why we have stopped feeding them.

Around the fourth day after hatching, koi fish larvae are fed the leftover yolk from a roasted scotch egg. There is much protein in duck egg yolks, which is why they are so helpful. Duck egg whites may be easily obtained and inexpensive, which are just two of the many benefits of utilizing them. Duck ingredients are superior to other egg whites due to their high protein content and diversified nutritional profile. Some benefits are as follows. One 150 g serving contains 17 g protein, 0.8 g carbohydrates, 36 g fat, 47.015 % water, 200 mg calcium, 400 calories, 0.6 g vitamin B1, 4,000 retinol equivalent international units, and 450 mg phosphate (Directorate of Nutrition, Ministry of Health RI 2004). Ten

essential amino acids are found in duck eggs, including histidine, arginine, threonine, pyrimidines, cysteine, isoleucine, lysine, glutamate, and lysine.
Similarly, duck eggs contain ornithine (Heny, 2002). The National Research Council determined in 1997 that the amino acids arginine, methyl ester, isoleucine, tyrosine, lysine, methyl, missense, threonine, dopamine, and valine were necessary for fish life. Fish need all 10 known amino acids for proper development and maintenance of their bodies. If fish are not given all ten essential amino acids, they won't develop properly.

Results from research by Sihombing et al. suggest that koi carp larvae may be successfully fed a combination including ducks egg yolk to raise their total body weight (2020). Because of the egg white stew's distinctive colour, odour, and taste, fish larvae can quickly pinpoint its source (as described by Subandiyono and Hastuti, 2016). (an omelette-yolk stew) Fish could consume more food than usual if fed yolk stew due to its high-fat content.

When they arrive at the Ciparay Fish Seed Center, the larvae are given a duck egg yolk diet every day, containing between one and six kilograms of vitamin C. (in the morning). Duck egg yolks are dissolved in water to make the first meal. Because koi fish larvae have such small mouths, this is done so that their food may be readily swallowed. In order to ensure the health of the koi fish fry, the feed is dispersed on both sides of the pond.

Koi fish larvae are given a stew prepared from the yolks of cooked duck eggs at the age of four, as opposed to the more common diets of daphnia or flour. This is because natural feed is in short supply, artificial feed is costly, and the Ciparay Seed Center will not allow the cultivation of daphnia. To add insult to injury, the Ciparay Seed Center does not cultivate daphnia. The Ciparay Fish Seed Center uses duck egg yolks, which have a high enough nutritional profile to be used in the growth of koi fish larvae, for the same reason.

After just four days of life, we introduced the yolk from fried duck eggs to the koi fish larvae cultivated at the Ciparay Seed Center to encourage feeding the fish larvae. Additionally, chicken egg yolks may be swapped for duck egg yolks in a diet due to their similar protein content.

3.2 Man-made Food Supply (Feng Li)

Fig -2: **Man-made Food Supply (Feng Li)**

Man-made feed, or artificial feed, refers to food specifically formulated for fish, with its nutritional value varying depending on the fish's developmental stage. It is essential to complete the proper math when doling out fish feed since the protein level of the feed is a factor in its production. The amount of protein in the meal has a direct effect on the size of the fish. The energy found in protein is essential for the development of koi larvae, and amino is also a necessary nutrient. Growth in fish may occur if the intake of food is more than the energy used in its upkeep, as stated by Arofah (2016). Feng Li is a manufactured food product designed for use with aquatic species, shrimp, and lobster of various sizes. Made with high-quality ingredients, this formula ensures the healthiest possible development of fish, crustaceans, and shellfish.

- Freshwater fish, shrimp, and lobster cultures all benefit from the formula's effectiveness.
- A protein source that is easily absorbed by the digestive system, which is especially beneficial for freshwater fish, shrimp, and lobster.
- Rich in protein and necessary amino acids, which promotes healthy shrimp development.
- Improve the overall health and survival rate of freshwater fish, shrimp, and lobster.
- Maintaining favourable water temperatures is essential to facilitating the treatment of reduced water exchange.

The Ciparay Fish Farming Center fed their fengli goldfish an FL 0 crumble-type meal with a feed diameter of 0.4 mm or less. Artificial feed for Fengli looks like tiny sand grains.

Fig -3: A size of less than 0.4 mm is considered synthetic feed

Baby koi fish are fed a diet of fungi and vitamin C. The Ciparay Seedling Institute feeds the following Vit C to koi fish hatchlings:

Fig -4: Max-C+ Vitamins

MAX C+ Taking in a lot of vitamin C. 50 percent vitamin C.
Useful for:

- Reducing Anxiety and Boosting Stamina
- Power up your defenses
- Stimulates development
- Aids in the process of getting well from an illness

3.3 Submerging Man-Made Food

Fish pellets are a kind of fish food that is printed into granules around the size of tablets. Fish pellets are prepared from various animal and vegetable materials that provide energy to fish and, more critically, aid in their development into larger specimens. It is not only that fish grow faster and healthier when fed fish pellets; there is also a harvest benefit for aquaculturists. The benefits of feeding fish subsurface artificial feeding are that it is less expensive, and the fish end up heavier than those given floating feed. When sprinkled in ponds or fish farming, the particles will settle to the bottom.

Feed Bintang 888-3, a synthetic sinking feed, is utilized in the Ciparay Fish Farming Center. Nutritionally, Partially or fully, 888-3 CPP, a declining supplement, is spot on. Improve the development of farmed koi fry with this fish food. With a protein level of 54%, a fat content of 8%, a fibre content of 10%, an ash content of 15%, and a water content of 16%, Motorised 888-3 sinking feed is a well-balanced composition. Bintang 888-3 fish feeding is specially formulated to promote the healthy development of fish by including all the vital nutrients, including protein, fat, crude fibre, and minerals.

Fig -5: **Submerging Man-Made Food**

At the Ciparay Fish Farming Station, they feed the fish a daily diet of 580 grams of this Bintang 888-3. They are increasing the quantity of synthetic fertilizer applied each day by 50 grams. You may have this twice each day—once in the morning and again before night. The physical architecture of the feed is the same as sinking feeding in general: tiny tubes; the feed is offered in two different diameters, measuring 2 centimeters and 3 centimeters wide, respectively. Drop some sinking food like Bintang 888-3 into the bucket with a scoop as you would fungi. After you have given them much water, wait roughly 20 minutes. Sinking food is present in the water and then sprinkled over the edge of the koi fish larval pond. This creates an ideal environment for the growth of juvenile fish. Fry of the koi fish is fed a mixture of this food and water so that their developing mouths will be in the proper place.

From day 10 through day 18 of the trial, feeding occurred submerged. The koi fish embryos being raised at Ciparay Seed Station were fed sinking feeds of the product Bintang 888-3 because it had an adequate amount of protein. Those looking for a feed of this kind would do well to stop by the Ciparay Seed Center. Each day at 8 AM and 2 PM, the staff at the Ciparay Seed Center feeds the animals there. As a result, the Ciparay Seed Center makes this adjustment so that the fish may develop more quickly, even when there is a probability of rain in the afternoons.

4. CONCLUSION

The procedure of feeding the baby fish at BBI Ciparay's koi fish farm was conducted in three phases. The first step involves feeding the 4-day-old larvae the egg white from a hard-boiled egg. As soon as the beetles reach their second stage, between the ages of five and Nine days, they are given an artificial meal called Feng-Li. After 10-18 days of germination, the seeds are fed a soluble artificial meal in the third stage.

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