

INTEGRATION OF FREE RANGE CHICKENS WITH OIL PALM

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Malaysia is a net exporter of chicken meat and eggs. The production of broilers and layers in the country is highly intensive with very strong commercial entity. The feed for the bird is imported. In 2001, the import value of animal feed was RM 1.6 billion. The poultry feed is made up of quality corn, wheat and soyabean. They are actually competing with human for the food grains.

The intensive production system also requires the chicken to be housed and kept in cages. To produce cheap meat for human, the birds are crammed and lack freedom of movement. Antibiotic is commonly used in stress situation to prevent bacterial infection.

The village poultry probably enjoy more freedom of movement. They are owned by individual household and maintained under a scavenging system, with little or no inputs for housing, feeding and health care. Therefore, the concept of free range chickens integrated with oil palm is recommended.

METHODOLOGY

The proposed project is proven suitable for mature oil palm above five years old. Clear excessive undergrowth cover in oil palm area and mark the location for the construction of coops. Plan area for paddocks and strategically construct perimeter and paddock fencing. Choose cheap but strong materials for fencing. Plastic and wire netting are proven suitable. A corrugated zinc should be placed at the bottom of the fence to deter predators.

Rear chickens in batches. Start with a batch of 1000 day-old chicks (DOC). Introduce one batch of DOC regularly every month in the 2 ha area. Construct five equally distributed coops in the area. Each coop should be constructed at the centre of 0.4 ha paddock. One coop is to house one batch of DOC. Place a 12 cm layer of wood chippings on the floor of the coop. Construct a ground-water well to supply water for the chickens if there is no supply of clean water. Install one container cabin for storage of feeds and equipment. Purchase a gas brooder



Figure 1. Day old chicks in the brooder enclosure.



Figure 2. Chickens stay in the coop for 10 to 12 days old.

that can be used for all coops. Purchase five hurricane lamps and 32 pieces of feed and water trough for each coop. Purchase broiler starter and grower feeds according to the requirement of the chicks. Preferably feed should not be stored for more than two weeks. Prepare four brooding enclosure in each coop before introducing the DOC. The brooding enclosure can be made from thin plywood with a height of 60 cm and diameter of 1.5 m. Place a gas brooder, hurricane lamp, eight water and feed troughs in each brooder enclosure.





Figure 3. Chickens ranging in an oil palm area.

Purchase good quality DOC from reputable suppliers. The chickens should be vaccinated against Marek's disease when purchased. Place two to three sheets of paper on the floor of the brooder enclosure. Make sure the gas brooder, hurricane lamp, water and feed are ready one day before the arrival of the DOC.

Place the newly arrived DOC in the brooder enclosure, let them rest for about 1 hr before providing water mixed with antistress vitamins. After about another hour, provide feed moistened with water. Do not put too much feed in the trough to avoid wastage. Make sure water and feed are always in the trough. Light on the gas brooder to provide warmth. If the DOC arrive at night, light on the hurricane lamps. Follow the recommended vaccinations schedule for chickens. Observe the chicks, remove any dead chicks and separate the weak from the rest of the flock. Remove the brooder enclosure when the chicks are five to seven days old. Raise the chickens in the coop until they are 10 to 12 days old. Release the chickens into paddocks after 10 to 12 days old at daytime and herd them back into the coop at night. Harvest and sell mature chickens at 13 to 15 weeks old or 1.5 to 2.0 kg body weight.

It was observed in the 0.4 ha area with a stocking rate of 1000 birds, grasses and other weeds were consumed by the chickens. This means that chickens can control weeds and as such chemical weeding is not necessary.

BENEFITS

- Biological control of weeds;
- Chickens replace labour for weeding;
- Chicken droppings are a good source of organic fertilizer; and
- Chickens can save 100% of weeding cost.

ECONOMIC ANALYSIS

A fixed cost of RM 96 000 is required to start a model with 1000 DOC per batch, one batch introduced every month. The chickens are reared for 13 to 15 weeks and sold

ex-farm at RM 4 to RM 5 kg⁻¹ body weight. The weight of finished bird is between 1.5 to 2.0 kg. The payback period is six years. The internal rate of return (IRR) computed for the model is 10% and the net present value (NPV) at 10% discount rate is RM 1025. The benefit cost ratio (BCR) for a discount rate of 10% is 1.08. After two batches introduced into the same paddock, chickens can save 100% of the weeding costs.

MARKETS

The range chicken have its own niche market. The price is also influenced by the price of broiler chickens. The price of live range chicken fluctuates from RM 3.50 to RM 5 kg⁻¹ ex-farm. Dressed range chickens are sold at RM 4.50 to RM 7 kg⁻¹. The demand for range chickens varies according to location. It is important to make sure that there is good demand for the range chickens before starting to produce. The contract farming system can be a secure form of producing chickens where the contractor will buy all the produce.

CONCLUSION

In mature oil palm plantation, range chickens can be used as an effective agent for the control of weeds. Adequate fencing and security is vital to ensure the chickens do not escape. The range chickens require seven-days-a-week care if they are to do well. A full time worker is required to take care of the chickens. One man can take care of 5000 birds. The integration of range chicken with oil palm is technically feasible and the economic viability is very much dependent on the price and demand for the birds. The locality and time of the year influence the price and demand for the birds.

The integration of range chickens with oil palm can be applied to the integrated pest management programme in relation to the biological control of weeds. It is a viable enterprise. With some changes in the normal agronomic practices of the plantation and by using a holistic approach, the synergistic effect of range chickens in oil palm can be realized to allow the maximization of land use.

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