

SYSTEMATIC INTEGRATION OF CATTLE IN OIL PALM

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Cattle, which are frequently assumed as pests to oil palm plantation, can actually be used as an effective agent for the control of weeds in mature palm. A systematic integration of cattle in oil palm with the use of portable electric fence as a tool to control the animal was proven to be workable. It is the management of beef cattle in mature oil palm based on the concept of mixed farming. The two commodities are integrated to maximize land use.

A holistic approach in systematic integration can harmonize cattle with oil palm and was proven to be economically viable. Cattle and oil palm can be harmonized by the method of systematic integration where a single line portable electric fence is used in the oil palm area to control the cattle herd to graze by rotation. The use of cattle as agent for weed control reduces herbicide contamination of the environment and reduces labour required for upkeep works. The rotational grazing system that was practised for weed control can contribute to realizing the goal of integrated pest management programme.

METHODOLOGY

The practice is suitable for oil palm above five years old without any stray cattle. Plan area for imaginary paddocks and strategically construct control yard. Purchase diseases free and productive cattle: for cow-calf operation, 100 breeding cows and five bulls require 400 hectares of land. Condition cattle to the electric fence if they have no previous exposure.

Encircle an area with portable electric fence and introduce cattle in the area. Make sure there is

enough pasture (do not call weed anymore) and supply of water. Provide mineral salt at all time. A ten hectare encircled area can accommodate 100 breeding cows with 5 bulls to graze for one day. Get ready an adjacent paddock by encircling electric fence next to the grazed area.

When optimally grazed, move cattle to the adjacent paddock. Remove all weeds not grazed by cattle which can be done manually or by chemical. Repeat the rotation and cattle can come back to the initial paddock 60 to 80 days depending on the regrowth of forages.

BENEFIT

- Weeds are biologically controlled.
- Cattle revitalize soil nutrient through faeces and urine.
- Cattle replace weeding labour, 150 cows can replace 4 men for weeding. Save weeding cost from RM30.00 to RM50.00 per hectare a year.



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ECONOMIC ANALYSIS

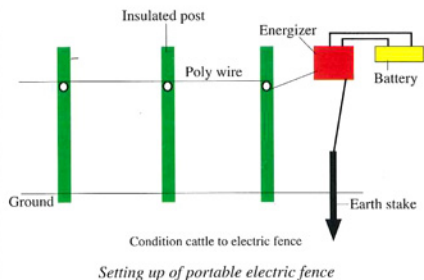
A capital cost of RM173,000 is required to start a model with 100 breeding cows and five bulls in a 400 hectare area. The payback period is 6 years. The internal rate of return (IRR) computed for the model is 13% and the net present value (NPV) at 12% discount rate is RM13 720. The benefit cost ratio (BCR) for a discount rate of 12% is 1.17.

MARKETS

Malaysia imports 80% of beef for local consumption. Currently there is no problem to buy and sell cattle. There are many local suppliers and traders involved in selling and buying of cattle.

CONCLUSION

The systematic integration of cattle in oil palm can be applied to the integrated pest management programme in relation to the biological control of weed. 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 cattle in oil palm can be realized to allow the maximization of land use.



A set of portable electric fence to control the herd

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