

VERSMAP

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INTRODUCTION OF TECHNOLOGY

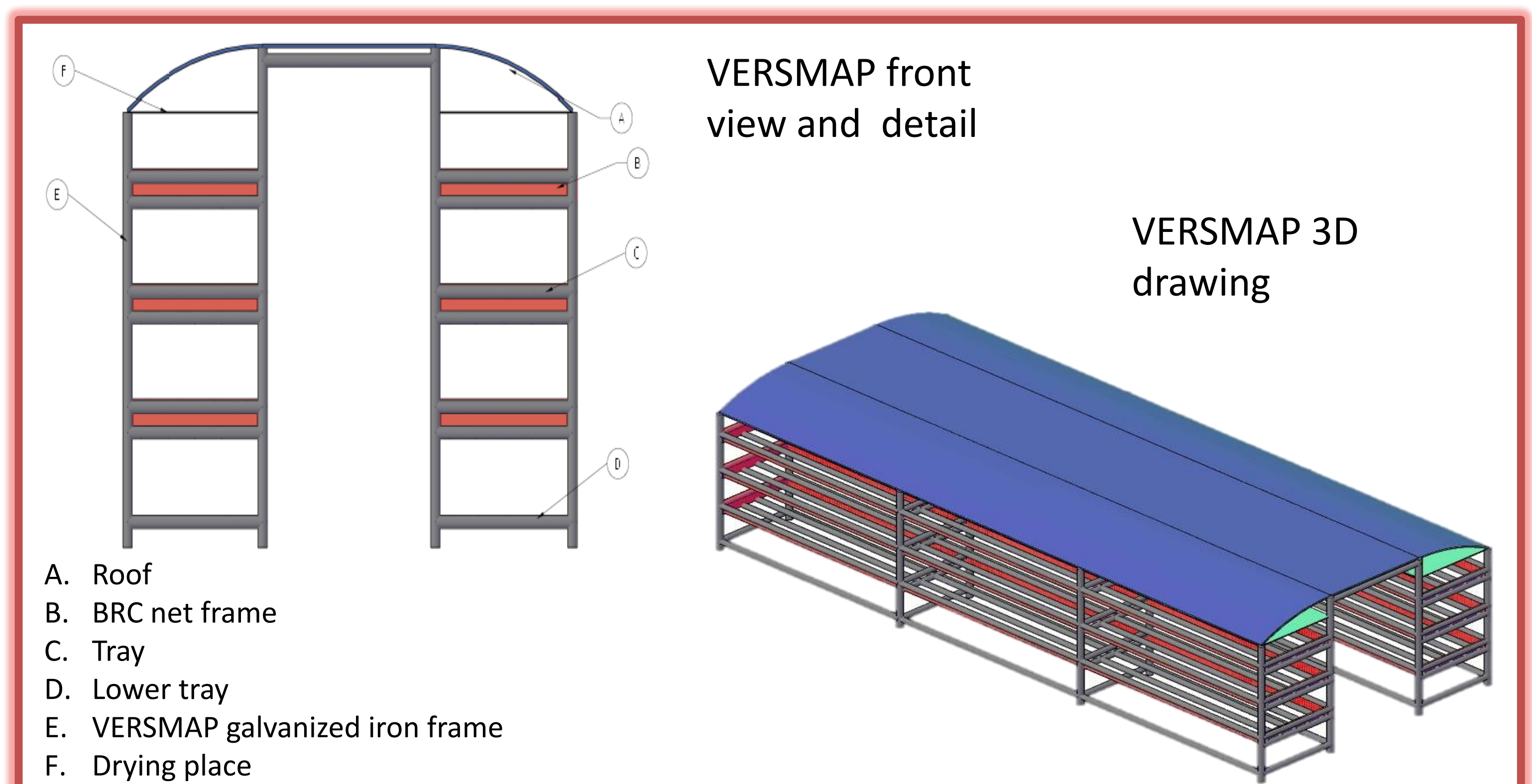
The *Azolla Pinnata* is an aquatic plant, which belongs to the *Azollaceae* family. It is a good source of protein and minerals, hence can be an alternative feed for the poultry, fish and others. Currently, the farmers are cultivating *Azolla Pinnata* in ponds with the production rate of 10 kg per 100 square feet of pond, for every 10 days of harvest time. This rate is considerably low, and the current set-up requires a large area to get a high yield of the plant. Therefore, this study is aiming to develop a multilayer vertical shelves@VERSMAP as to increase the production rate of *Azolla Pinnata*.

INVENTION

VERSMAP is defined as multilayer vertical rectangular shelves with a space in the middle. The frame was made out of galvanized iron and the roof was fitted with sunblock black netting. The multilayer shelves, with 400 litres of water capacity each, act as ponds to cultivate *Azolla Pinnata*, and were made from hard transparent plastic. Findings showed that by using VERSMAP, a total of 900 kg of *Azolla Pinnata* can be harvested per month. This is based on six harvest times per month, with each harvest time yielded 150 kg of the plant. The production rate of *Azolla Pinnata* in this study was 4 times higher compared to the current pond cultivation setup. Hence, VERSMAP can be used to help the farmers to increase the production rate of *Azolla Pinnata* as an alternative animal feed.

ADVANTAGES

1. Increase the crop production rate 4 times.
2. Reduce cultivation area.
3. Using 10% of soil + organic fertilizer and 90% of water.
4. Drying space.
5. Low cost.
6. Low maintenance.
7. Easy handling.



Type of Analysis	Layer 1 (%)	Layer 2 (%)	Layer 3 (%)	Layer 4 (%)	Maize (%)
Moisture Content	10.20	10.20	10.10	10.10	7.20
Protein	22.49	22.43	22.43	22.40	7.36
Fiber	21.9	21.9	21.9	21.9	1.7
Fat	3.2	3.2	3.2	3.2	3.68
Ash	24.20	24.20	24.20	24.20	2.07
Calcium	0.2	0.2	0.2	0.2	17.9
Phosphorus	0.8	0.8	0.8	0.8	0.8

Table 1. Physicochemical properties of *Azolla Pinnata* and maize

MARKET POTENTIAL

1. Breeder (poultry, ruminant and fish)
2. Animal feed supplier
3. Government agencies; LPP, MARDI and FAMA.

CONCLUSION

In conclusion, the VERSMAP can increase the amount of *Azolla pinnata* production rate 4 times compared to conventional method.



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