Enhancing Local Tropical Beef Cattle Production Supporting Food Security in Indonesia

Endang Tri Margawati

LOCAL BEEF CATTLE

As the fourth highest populated country in the world and the increase of Indonesian economic level lately, Indonesia faces several problems as consequences. This paper is restricted pertaining animal production of local beef cattle (and sheep) supporting food security in Indonesia also food self-sufficient and food sovereignty. Animal production is one of components of those matters. Genetic resources of livestock need to be explored both the existing local beef cattle and their trait superiority. There are 11 indigenous cattle breeds in Indonesia (Agric. Ministry's decree, 2010; 2011; 2012; 2014). Two out of 11 breeds are suggested to be important to support the food sufficient from meet sources, i.e., Bali and PO breed cattle. Quantitative performance of both breeds need to be combined with molecular genetic markers. Several genetic markers have been applied to identify and confirm of important traits both in Bali and PO breeds (growth sheep (Margawati, 2005; Margawati et al., 2011), twinning birth (Margawati et al., 2014)), meat quality (Margawati, et al., 2014). Other important traits need to be explored such as reproduction, carcass trait in cattle. Our tropical beef breed tends to be less fat deposit and produces more healthy meat. Both breeds are almost preferred by small holder farms since easy to be reared with less grass quality, can consume waste of agriculture crop and rice, also survive under dry and hot weather. Theoretically when those breeds are maintained intensively with good management and better feed they would grow much better.

Molecular genetics-based approaches are quicker and better selecting important traits and enhancing our local beef cattle production (Margawati, 2012) subsequently supporting food security. The selected cattle with certain important traits would then be delivered to AI and Breeding Centers. Those centers would spread selected cattle (bearing important traits) to small farmer holders throughout Indonesia. Existing conventional method of AI is still needed to multiply offsprings production of selected cows and bulls. Research concerning the important traits of local beef cattle in Indonesia as a tropical country is recommended to enhance animal production for supporting food security, self-sufficient and sovereignty of food.

OBJECTIVES

- Exploring animal production of local beef cattle of food production in Indonesia

ANIMAL PRODUCTION SUPPORTING FOOD SECURITY

A. GROWTH TRAIT

| QTL Analysis, Genome wide scan covered 26 cie (136 MS markers, 381 sheep population) |

Garut sheep tends to have a better growth by CSSM018 and FMR1 MS markers at chromosome 18

CONCLUSIONS

- Bali and PO breed cattle are urgently to be explored for their potential traits
- Several important traits have been studied in local beef cattle
- Advanced technology needs to be followed by AI method for multiply offsprings
- Selected animal with potential traits would contribute to AI and Breeding centers to improve potential genetics in small holder farmers
- Local beef cattle has potential supporting food security
- Indonesian beef cattle could contribute as healthy meat

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