

FACULTY OF BIOLOGY UNIVERSITAS GADJAH MADA



I-MHERE
PROJECT

CERTIFICATE OF APPRECIATION

This certificate is awarded to

Sumarmi

in recognition of valuable contributions as

POSTER PRESENTER

in The International Conference on Biological Science Faculty of Biology Universitas Gadjah Mada (ICBS BIO-UGM 2011),

“Advances on Biological Science : Education for Sustainable Development- based tropical biodiversity management
and conservation for supporting human prosperity”

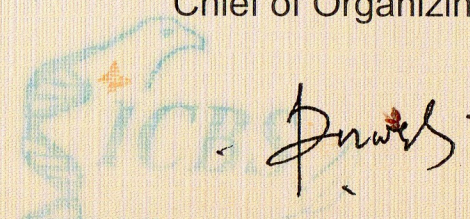
Organized by Faculty of Biology Universitas Gadjah Mada on September 23rd-24th, 2011
in Yogyakarta, Indonesia.

Dean



Dr. Retno Peni Sancayaningsih, M.Sc.
NIP. 195509291982032002

Chief of Organizing Committee



Dr. Yekti Asih Purwestri, M.Si.
NIP. 197105231998032002

P-MB09

International Conference on Biological Science Faculty of Biology Universitas Gadjah Mada 2011 (ICBS BIO-UGM 2011)
Faculty of Biology UGM - Yogyakarta, Indonesia, September 23rd-24th 2011

The Utilization of Local's Beji Soybean For Improving The Welfare of The Community

Sumarmi¹, Sulastri Isminingsih² Budi Setiadi Daryono³, Diah Rachmawati³, Ari Indrianto³

¹ Faculty of Agriculture, Slamet Riyadi Surakarta University, sumarmi_mp@yahoo.com ²Center Study of Biotechnology Gadjah Mada University ³ Faculty of Biology, Gadjah Mada University

ABSTRACT

Soybean is an important food crop. Productivity of local soybean needs to be improved to support community food security. Research in the framework of Education for sustainable development has implemented since April until September 2011 in the village of Beji, District Ngawen, Gunung Kidul Regency, Yogyakarta Special Region. Counseling and training of soybean processing was done to educate the public. Soybeans seed are processed into 'soybean milk' and added to the manufacture of 'tiwul' to enhance protein in these traditional foods. Communities are trained to process tempe and tofu into nuggets to create a variety of flavors. After the training they are expected to increase nutritional intake, especially for the Beji village children and rural communities become healthier.

Keywords: soybean, welfare, community

INTRODUCTION

Food security remains a problem for Indonesia's population. Farmers felt soybean farming was less profitable because of lower selling price. The imbalance between production and consumption of soybean triggers import dependency (Sri Nuryanti and Reni Kustiari, 2007) Post-harvest handling and processing of soybean also remain a problem for farmers. The success of agriculture with the environment is an important factor for improving the productivity of various crops.

Actually, each region has its special properties in terms of kinds of crops. Specific traits associated with the geographical conditions of each region. Food crops which were commonly planted by Beji village farmers, are rice, corn, soybean, cassava, and peanuts. Local soybean varieties often have several advantages such as easy to adapt to the local environment.

Development of local soybean varieties should be improved to strengthen the food security of local communities. Post-harvest handling and management of agricultural products, is one of food security improvement program Gunung Kidul District Agricultural Office. Beji village community empowerment can be done with local soybean processing innovations to improve community welfare.

Sources of revenue of the village of Beji is mainly from agriculture (44%). In the community, including jobs as farmers low-income groups, as well as laborers and fishermen. Therefore it is considered an attempt to increase farmers' income. In the framework of

education for sustainable development, community empowerment EfSD should pay attention to the three pillars of economic, environmental and social. In this case, planting soybeans and maintenance of plants with the environment will be done, followed by training for the utilization of the crop.

This study aims to educate the community by utilizing local soybean from Beji village as a protein-rich food sources through socialization, counseling, training and implementation of training to improve the welfare of villagers.

METHODS

1. The introduction of the location and villagers of Beji, Ngawen, Gunung Kidul. Knowing the community aims to encourage cooperation in the activities.
2. Extension and training soymilk with ginger flavor and soy tiwul. Training makes the milk smell of ginger and soy tiwul given to improve nutritional intake for Beji village community especially the children in its infancy.
3. Food processing training made from soy basics. Training for diversified use of soy flavor and aroma with cooking methods tempe / tofu made into nuggets. Furthermore it is also introduced how to make soy crackers.
4. Making land pilot plant of soybeans. Soybean planting begin in early June 2011 before the dry season, which begin in paddy fields which is not so watery.
5. Implementation of Training Results . Implementation of training by making soy milk and nuggets out for Toddlers Integrated Service of Community (“Posyandu”) and activity for Elderly ISC

RESULT AND DISCUSION

1. The introduction of location and the Village Community Beji, Ngawen, Gunungkidul.

Table 1. Condition Beji Village, Ngawen, Gunungkidul.

No.	Condition	Expalanation
1.	The plants are usually planted	Rice, corn, soybean, cassava, peanuts
2.	Source of public revenue	Agriculture (44%) home industry (30%) farms (14%) merchant (7%) fishing (3%) services (2%)
3.	The total area	725.8 acres
4.	Number of hamlets	14
5.	The number of RW	30
6.	The number of RT	51
7.	Population	7681 people (2010)
8.	Village Market	Market activity: 3 times a week

At the first meeting it was attended 14 hamlets and 6 Sub-District and District staff. Material presented is still an outline of a work program for 5 months in the village of Beji. The second socialization accomplished on June 30, 2011. On that date the event packaged in

one-hour long meeting from 09:30 until 15:00 hours with the title of the activity "Dissemination Utilization of Natural Resources and Entrepreneurship Training Beji village" with Magister Management UGM program. Activities took place in the village hall of Beji with 51 people attended, consisting of 14 head of the hamlet 10 members of the PKK, 4 people in the village and 14 young people, 4 Grantee, and the village chief.

2. Extension and Training Soybean Milk with Ginger flavor and Soy tiwul

Counseling and training soybean processing to convey the importance of soy consumption explained the benefits of soy, giving examples of processing soybeans to improve regional and local potentials give an opportunity entrepreneurship soybean milk. All material originated or purchased from the village of Beji. All equipment to cook using the property of villagers of Beji. Villagers who participated were 55 women.

3. Food Processing Training Made from Soy Basics

Training innovation based soybean processing plant is a model of empowering local communities. The expected result of changes in knowledge, skills and attitudes of local communities. Number of participants: 55 mothers and drawstring Sidorejo hamlet residents. The results of tempeh nuggets: well, looks like a nugget nugget packaging sold in stores, but the flavor remains prominent Tempe. Training assisted by student service learning. If there are entrepreneurs making soybean milk and nuggets the earnings of Beji village communities will increase resulting the increase of the welfare.

4. Making Land Pilot Plant Soybeans

The results of the growth of soybean plants at the age of 35-40 days, conditions in the hamlet of less well drawstring. Soybean plants in the hamlet of Duren higher plants, can reach 50 cm, fresh green leaves appears, leaves fairly wide, pods begin to contain and there are some plants which number more than 40 pods per plant. At the age of 85-90 days soybeans have been harvested. The results of the total harvest of soybeans less encouraging because in a just acquired 119 acres of 'beruk' (a measure commonly used in the village). Yields of less than 2 quintals per hectare, including the poor. This happens because the farmers are very dependent on natural conditions, environment, weather and other factors that cannot be controlled by humans, such as extreme hot weather, etc..

5. Implementation of Training

The application of training outcomes soy milk and tempe nuggets carried in ISC activity (Integrated Service Community) for Elderly and Toddlers (Under Five Years), on July 23, 2011 is the result of cooperation and community service learning student shaved hamlet, village Beji. The number of elderly people who come 37 people (28 female, 9 male), while the number of Toddlers who came there were 11 children (ages 1 to 5 years). After the training they are expected to have increased nutritional intake, especially for the Beji village

children who will be given soybean milk and rural communities are hoped to be more healthy.

CONCLUSION

1. Counseling and training to make the soy milk with ginger flavor and soy tiwul, done to increase knowledge and skills of the community.
2. Training makes tempe nuggets and soy crackers in the hamlet Sidorejo soybeans, followed by 55 villagers have been managed well.
3. Providing nuggets tofu and soy milk at the Integrated Service Community for Toddler and Elderly undertaken to increase nutritional intake
4. Yields in pilot in a single hectare of land as many as 180 kg dried soybean seeds, resulted in less satisfactory because of the drought.

ACKNOWLEDGMENT

I-MHERE Project 2011 Faculty of Biology Universitas Gadjah Mada

REFERENCES

- Anonim, 1996, Biology Document *The Biology of Glycine max (L) Merr. (Soybean)* BIO1996-10, Canadian Food Inspection Agency, Canada
- Anonim, 2009, Target Produksi kedelai Indonesia 1,5 juta ton, Dirjen Tanaman Pangan
- Anonim, 2007, Wonogiri Dalam Angka, <http://www.pertanian.wonogirikab.go.id>
- Asadi, 2009, Identifikasi ketahanan sumber daya genetik kedelai terhadap hama pengisap polong, Buletin Plasma Nutfah, Vol.15 No.1: 27-31
- Budiana, Suharsono, Ence Darmo Jaya Supena dan Ika Mariska, 2010, *Induksi Pembelahan Sporofitik Mikrospora Kedelai Melalui Kultur Antera Pada Sistem Media Dua Lapis*, Sekolah Pasca Sarjana, Institut Pertanian Bogor.
- Sri Nuryanti dan Reni Kustiari, 2007, Meningkatkan Kesejahteraan Petani Kedelai Dengan Kebijakan Tarif Optimal, Pusat Analisis Sosial Ekonomi dan Kebijakan Pertanian Jl. A. Yani 70, Bogor. 16161
- Supadi, 2008, *Menggalang partisipasi petani untuk meningkatkan produksi Kedelai menuju swasembada*, Jurnal Litbang Pertanian, 27 (3): 1006-111
- , 2011, Kecamatan Ngawen, Kabupaten Gunungkidul, Provinsi Daerah Istimewa Yogyakarta <http://www.gunungkidulkab.go.id/home.php?mode=content&id=132>