



Stories from the field



© FAO

**Viet Nam
Save and Grow**



Using IPM, farm incomes are boosted by growing potatoes in lowland rice

Today, elderly women in the northern Thai Binh province are growing potatoes using a labour-saving method and sell the farm produce to raise money to pay for their grandchildren's school! Between 2009 and 2012, incomes from growing potatoes increased by 19 to 31 percent using minimum tillage potato IPM compared with conventional potato growing methods.

In 2008, the International Year of the Potato, FAO introduced Viet Nam to the concept of minimum tillage potato growing using integrated pest management (IPM) in lowland rice production systems. Soon after, Oxfam America joined FAO to support farmer field school training and field testing of this innovative potato growing method through Viet Nam's National IPM Programme managed by the Plant Protection Department of the Ministry of Agriculture and Rural Development (MARD).

Rice fields are not ploughed, or tilled, after harvesting. Instead, the paddies are drained using drainage furrows that result in raised beds. The beds are ideal for growing potatoes without the usual need for labour intensive ploughing, or tilling. Using minimum tillage potato IPM, the potato seed tubers are simply placed on the beds created by the drainage furrows. After adding fertilizer to the soil around the tubers, the beds are covered with straw left over from the recent rice harvest. Twice during the growing season more fertilizer and rice straw must be added to the potato beds.

Four hectares of rice produces enough straws to grow one hectare of potatoes. Using leftover rice straw for mulch has the added benefit of reducing the emission of greenhouse gases, because traditionally the rice straw was burnt.

The straw mulch creates an important habitat for many of the potato's natural enemies. Also known as friends of farmers, these insects and micro-organisms are vital if the plant pest population is to be successfully regulated and in a natural organic way. Importantly, mulching with rice straw reduces the need for irrigation from 5 000 cubic metres of water to just 900 cubic metres per hectare. Using the IPM system to grow potatoes, farmers report a substantial reduction in the use of fertilizers and pesticides, and a dramatic reduction in labour. The method reduces the labour involved in land preparation, planting, irrigation, agrochemical application and harvesting by some 28 to 47 percent when compared to the conventional method of growing potatoes.

In 2009, 23 women in the IPM Farmers' Group in Thai Giang village were able to buy television sets with the extra money they made growing potatoes. From their potato-farming income in 2010, they bought gas stoves while others said they were saving the money to send their children to university.

Initially, the initiative involved one province and 25 farmers. Today, 4 000 farmers have adopted minimum tillage potato using IPM in 22 provinces; about 70 percent of those farmers are women. As a result, minimum tillage potato IPM was recognized as a promising model and, in 2013, the ministry issued a directive calling for all potato-producing provinces in the country to apply the practice.

The potato is the fourth most important food crop in the world. The potato produces more nutritious food more quickly, on less land than any other major food crop. It has the potential to become an alternative source of carbohydrates in parts of the world where rice has long been king. In Viet Nam, the potato is an important winter-rotation food crop. It is used in food processing and has become a source of increasing income for small farmers. Favourable soil and climatic conditions – especially in the northern plains, the mountainous north and the north central and central highlands – make it possible to grow potatoes on at least 200 000 hectares of land each year.

The practice of minimum tillage potato IPM may have come at just the right time, because potato productivity from traditional growing methods has been low in recent years. Areas planted to the crop have also been declining due to a lack of quality seeds and increasing labour costs. Urbanization and the migration of rural youth to nearby cities in search of better-paid employment opportunities have left farm activities mostly to women, especially the elderly. Because conventional potato production is labour-intensive, many families shifted to planting other crops. But, now minimum tillage potato IPM may be the potato's salvation in Viet Nam, helping to conserve resources and grow more food that can improve diets and increase farm incomes for families in many provinces across Viet Nam.



CONTACTS

Jong Ha BAE
FAO Representative
No. 3 Nguyen Gia Thieu Street
Hanoi, Vietnam
Tel: +84 4 39424208
Fax: +84 4 39423257
E-mail:FAO-VNM@fao.org

Jan Willem KETELAAR
CTA/Team Leader
FAO Asia Regional
IPM/PRR Programme
FAO RAP
Bangkok, Thailand
Tel: +66 2 6974274
Fax: +66 2 6974422
E-mail:Vegetable-IPM@fao.org
Website:
www.vegetableipmasia.org

For a world without hunger

The FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

leads international efforts to defeat hunger. Serving both developed and developing countries, FAO acts a neutral forum where all nations meet as equals to negotiate agreements and debate policy. FAO is also a source of knowledge and information. We help developing countries and countries in transition modernize and improve agriculture, forestry and fisheries practices and ensure good nutrition for all. Since our founding in 1945, we have focused special attention on developing rural areas, home to 70 percent of the world's poor and hungry people.



**Food and Agriculture
Organization
of the United Nations**

Regional Office for Asia and the Pacific
Maliwan Mansion, 39 Phra Atit Road
Bangkok 10200, Thailand
Tel: (+66 2) 697 4000
Fax: (+66 2) 697 4445
email: FAO-RAP@fao.org
www.fao.org
www.fao.org/world/regional/rap