



**In this issue**

2 International Year of Pulses 2016

3 Soil Health in Field and Forage Crop Production

4 Resource links on Conservation Agriculture in Africa

4 Upcoming events

## Zimbabwe's 'farming wizard' grows bumper crop in worst drought in years

Phillip Tshuma, 67, is considered by his neighbours as a wizard who commands the rains with the help of goblins. How else could he grow a bumper crop of ripening maize, sorghum, millet and peanuts in a season when many farmers in Zimbabwe have written off their crops? The truth is the farmer from Gavu, a village in arid Hwange District, about 450 km north of Bulawayo, cannot control the weather. But he can predict it fairly accurately.

Tshuma is one of a thousand small-scale farmers in southern Zimbabwe benefiting from a project called Climate Smart Agriculture: Combating the El Nino Phenomenon. Launched in Jambezi ward in 2013, the project is part of the nation's plan to manage threats such as droughts by

strengthening systems to provide early warnings about risks to agriculture from climate change and related weather problems. The project teaches techniques to help farmers improve their harvests while cutting their costs. The methods include mulching fields to save water, planting crops in dug-out basins filled with manure, planting different types of crops together in a field and using fertiliser in small doses just where it is needed. In addition, it equips farmers on how to use weather-monitoring techniques and climate-smart agriculture practices to maintain food security in rain-scarce parts of the country. It brings together the Ministry of Agriculture's Department of Agricultural Technical and Extension Services (Agritex), the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), and local

telecommunications services provider Econet.

Last season, Tshuma and his wife Simnai harvested 1.5 tonnes of millet, one tonne of sorghum, and a quarter tonne of groundnuts. This season he expects to harvest four tonnes of millet and nearly 2.5 tonnes of sorghum, despite a drought that has slashed neighbours' maize harvests.

Read more on:

- <http://www.bdlive.co.za/africa/africanews/2016/03/23/zimbabwe-farming-wizard-grows-bumper-crop-in-worst-drought-in-years> or
- [http://act-africa.org/news.php?com=68&com2=6&item=343#.VwPPsXreM\\_k](http://act-africa.org/news.php?com=68&com2=6&item=343#.VwPPsXreM_k)

## Consultative meeting on implementation of Conservation Agriculture Push-Pull technology in Zambia and Malawi

In Sub-Saharan Africa, *Stemborers*, parasitic *Striga* weeds and land degradation hamper efficient production of cereals, particularly maize and sorghum, the main staple and cash crops for millions of smallholder farmers. The losses caused by stemborers can reach as high as 80% in some areas and an average of 15-40% in others. Those attributed to *striga* weeds on the other hand range between 30 and 100% and are often exacerbated by the low soil fertility prevalent in the region.

To counter this menace, a conservation agricultural technology known as 'Push-Pull' has been developed for integrated management of stemborers, *striga* weed and soil fertility. "Push-Pull" was developed



On-station demonstration on the effects of *striga* weed and stemborer on maize at ICIPE Mbita

(Continued on page 2)

## Consultative meeting on implementation of Conservation Agriculture Push-Pull technology in Zambia and Malawi (Continued from page 1)

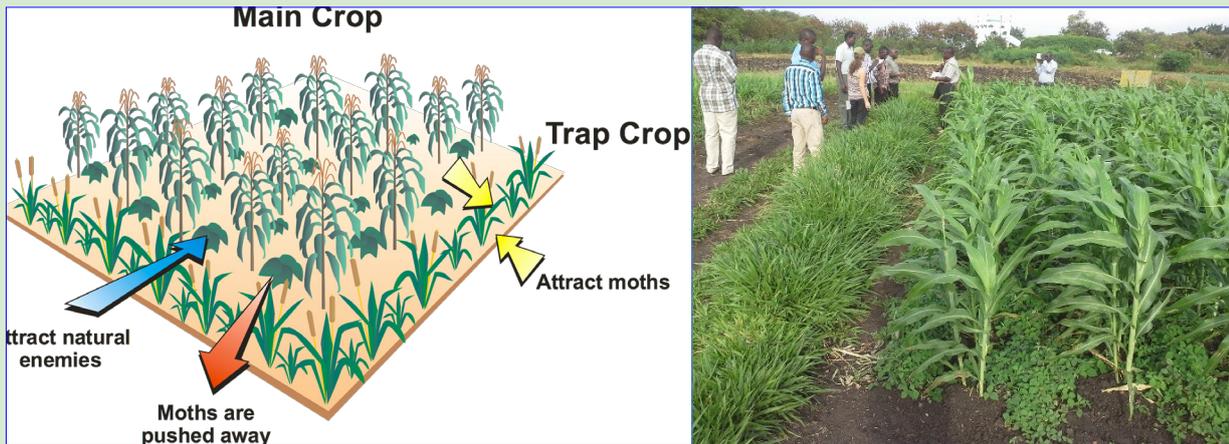


Illustration of push-pull technology strategy at icipe mbita on-station demonstration

by scientists at the International Centre of Insect Physiology and Ecology (ICIPE), <http://www.icipe.org/>, in Kenya and Rothamsted Research, in the United Kingdom, in collaboration with other national partners. The technology is appropriate and economical to the resource-poor smallholder farmers in the region as it is based on locally available plants, not expensive external inputs, and fits well with traditional mixed cropping systems in Africa. To date it has been adopted by over 122,650 smallholder farmers in East Africa where maize yields have

increased from about 1 t/ha to 3.5 t/ha, achieved with minimal inputs.

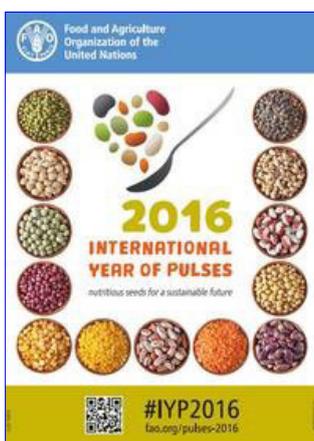
The technology involves intercropping maize with a repellent plant, such as desmodium, and planting an attractive trap plant, such as Napier grass, as a border crop around this intercrop. Gravid stemborer females are repelled or deterred away from the target crop (push) by stimuli that mask host apparency while they are simultaneously attracted (pull) to the trap crop, leaving the target crop protected. Desmodium produces root exudates some of which stimulate the

germination of *striga* seeds and others inhibit their growth after germination.

ICIPE and the African Conservation Tillage Network (ACT), both being recipients of European Union funding support for research and development of push-pull and CA respectively, are now desirous to upscale "organic" push-pull based CA with synergy of the ACT CA network partners in Southern Africa.

For more information: <http://bit.ly/1VrnSLP> or <http://www.push-pull.net/>

## International Year of Pulses 2016



The 68th UN General Assembly declared 2016 the International Year of Pulses (IYP) ([A/RES/68/231](http://www.un.org/News/Press/docs/2011/11-24-68GA.html)). The Global Pulse Confederation and its IYP 2016 partners have identified a series of thematic areas that will be the focus for activities during the 2016 International Year of Pulses. These areas represent the key issues where new and increased efforts could

help make a difference in promoting sustainable agriculture and livelihoods, as well as healthy diets, through increased production, trade and consumption of pulses.

The four key thematic areas are:

- [Creating Awareness](#)
- [Food Security, Nutrition & Innovation](#)
- [Market Access & Stability](#)
- [Productivity & Environmental Sustainability](#)

Pulses, also known as grain legumes, are a group of 12 crops that includes dry beans, dry peas, chickpeas, and lentils. They are high in protein, fibre, and various vitamins, provide amino acids, and are hearty crops. They are most popular in developing countries, but are increasingly becoming recognized as an excellent part of a healthy diet throughout the world.

Some pulses serve as important cover crops in Conservation Agriculture (CA) and are planted to provide soil cover, improve soil fertility and sometimes produce feed in addition to food. The CA manual for farmers and extension workers in Africa <http://www.fao.org/ag/ca/AfricaTrainingManual.html> identifies the most common cover crops in Africa and assists on how to choose the right cover crop.

Pulse crops are one of the most sustainable crops a farmer can grow. It takes just 43 gallons of water to produce one pound of pulses, compared with 216 for soybeans and 368 for peanuts. They also contribute to soil quality by fixing nitrogen in the soil.

Read more: [http://act-africa.org/news.php?com=68&com2=6&item=342#VwPPrXreM\\_k](http://act-africa.org/news.php?com=68&com2=6&item=342#VwPPrXreM_k) or <http://iyp2016.org>

# Soil Health in Field and Forage Crop Production

Soil Health in Field and Forage Crop Production is a new publication by the USDA Natural Resources Conservation Service, Penn State University Extension, Capital Resource Conservation & Development, and Clinton County Conservation District. The publication is by Sjoerd Duiker, Joel Myers and Lisa Blazure. It is about improving the bottom line using

continuous no-till, cover crops and cropping diversity.

Soil health is the continued capacity of soil to function as a living ecosystem that sustains plants, animals, and humans. This 32-page full-color publication emphasizes the natural principles of the no-till system and discusses 14 management techniques

for improving soil health: diversify crop rotations, plant cover crops, diversify cover crops, maximize living roots, grow living plants, manage carbon, use interseeding, plant green, enhance soil armor, manage nutrients, manage manure, manage pests, avoid compaction, and integrate crops and livestock.

1. Diversify Crop Rotations
2. Plant Cover Crops
3. Diversify Cover Crops
4. Maximize Living Roots
5. Grow Living Plants
6. Manage Carbon
7. Use Interseeding
8. Plant Green
9. Enhance Soil Armor
10. Manage Nutrients
11. Manage Manure
12. Manage Pests
13. Avoid Compaction
14. Integrate Crops and Livestock



Photo: Kelley King, King Photography

Soil health is like the hub of a wheel. There are 14 spokes, or management principles and techniques that improve soil health

For more information:

- Download the publication here: <http://extension.psu.edu/publications/ee0174/view>
- You may contact Sjoerd Duiker at: [swd10@psu.edu](mailto:swd10@psu.edu)

## Resource links on Conservation Agriculture in Africa

If you are interested in knowing more about Conservation Agriculture and its promotion in Africa, information are available in the links below:

- [African Conservation Tillage Network \(ACT\)](#)
- [First African Congress on Conservation Agriculture](#)
- [Conservation Farming Unit \(CFU\)](#)
- [FAO website](#)
- [Community of Practice for Conservation Agriculture \(CA-CoP\), an e-mail listserver on CA managed by the FAO](#)
- The Howard G. Buffett Foundation (HGBF) <http://www.thehowardgbuffettfoundation.org/>
- [Worldwide Conservation Agriculture knowledge resources website of Cornell University](#)
- [Weblog on CA](#)
- [CIRAD CA2Africa website](#)
- [Promotional films on YouTube](#) [keywords: Conservation Agriculture]: *Includes videos of the FAO, ACT, CFU, EU, Catholic Relief services, Farming God's Way, etc.*
- [Promotional films on Vimeo](#) [keywords: Conservation Agriculture Africa] *Includes FAO/REOSA sponsored films and conference talks by Agropolis International*
- [Farming God's Way website](#)
- [Foundations for Farming](#)

## Upcoming Events

### Conservation Agriculture Regional Field Study Tour, to the Islands of Hope under the El Nino, Lusaka, Zambia April 11-15, 2016

FAO and the Southern Africa Conservation Agriculture Working Group (CARWG) in collaboration with the National Conservation Agriculture Task Force (NCATF), the Conservation Farming Unit and the Ministry of Agriculture Zambia will facilitate a Conservation Agriculture Regional Field Study Tour to Zambia from 11-15 April 2016.

The field tour expects to have 30 international participants from the Southern African Development Community (SADC) countries drawn from NCATFs, Ministries of Agriculture, Disaster Risk Reduction (DRR) and Management authorities as well as development and humanitarian actors involved in resilience building

for farmers. The study tour aims to help participants deepen their understandings of CA and other agricultural livelihood combinations that can contribute to increases in productivity, profitability, risk reduction and farmer resilience. In the midst of the drought brought about by the El Nino, participants will be able to witness **"The Island of Hope"** being the successes of CA.

The study tour is financially supported by the FAO SFS REOSA and USAID-OFDA.

For further information contact: [Lewis.Hove@fao.org](mailto:Lewis.Hove@fao.org); CARWG Secretariat, FAO Southern Africa.

### 12th CAADP Partnership Platform Meeting



The 12<sup>th</sup> CAADP PP is organised on 11-15 April 2016 in Accra, Ghana, under the theme **"Innovative Financing and Renewed Partnership to accelerate CAADP Implementation"**. Its objective is to discuss on the ways of accelerating the CAADP implementation to transform African agriculture in the face of emerging trends that have a direct bearing on our abilities to deliver results and impact. Find [delegate brief](#) for more event logistical details.

For More Information: <http://www.nepad-caadp.net/12th-caadp-partnership-platform>

### International Conference on Conservation Agriculture and Sustainable Land Use

The conference organized by Geographical Institute, Research Centre for Astronomy and Earth Sciences, Hungarian Academy of Sciences will take place at the Hungarian Academy of Sciences, Budapest, 31 May – 2 June 2016. For more about the event <http://caslu2016.mtafki.hu/venue.html>

For more information, please contact: [Executive Secretary](#) | [African Conservation Tillage Network](#)  
 KARLO - Kabete, Waiyaki Way | P.O. Box 10375-00100, Nairobi, Kenya | Tel: +254 20 8076064; +254 710 122 251  
 Email: [info@act-africa.org](mailto:info@act-africa.org) | Web: [www.act-africa.org](http://www.act-africa.org)



**Norad**

ACT acknowledges the partnership and financial support provided by the Norwegian Agency for Development Cooperation (NORAD) towards Promotion of Conservation Agriculture in Africa