

African Conservation Tillage Network

FIRST AFRICAN CONGRESS ON CONSERVATION AGRICULTURE (IACCA)

**18 – 21 March 2014, Lusaka, Zambia**

**Call for Condensed Papers**

**Theme:**

**"*Conservation Agriculture: Building entrepreneurship and resilient farming systems*”**

Deadline 10th January 2014

**Background**

The African Conservation Tillage Network (ACT) in partnership with NEPAD, COMESA, NORAD, CIMMYT, FAO and CIRAD invites you to the 1st Africa Congress on Conservation Agriculture (IACCA) to be held from 18th to 21st March 2014 in Lusaka, Zambia. The aim of IACCA is to share and expose experiences and lessons and facilitate alliances to unblock hindrances to expanded and scaled-up adoption of conservation agriculture especially among the smallholder farming systems and related industry in Africa. The Congress will specifically put a spotlight on experiences and lessons from interventions and practices e.g., political, policy, technical and financing that have worked in triggering and enhancing sustained adoption and expansion of CA. Hence, it will contribute to enhancing the promotion and adoption of CA as a way to improve farm productivity, improve resilience in the ecosystems, and optimise both short and long term productive-ability of the land-water systems. Adoption of Conservation Agriculture by a critical mass of farmers is also desirable in realising the core mitigation-adaptation benefits of farming in the face of climate change and variability.

A call for condensed papers is extended to all authors relevant to the congress theme and any specific sub-theme as below. Authors should indicate whether they want to do oral or poster presentations. Specifications for the posters are 90 cm wide, 120 cm high, with letter sizes readable from 2 m and with a good mix of photos, diagrams, tables and maps.

**Theme**: The theme of the congress is *“Conservation Agriculture: Building entrepreneurship and resilient farming systems”*.

**Sub-themes**:

1. Growing more with less – the future of sustainable intensification
2. Weather proofing agriculture - the adaption of farming practices to address climate variability and change
3. CA for sustained wealth creation – unlocking barriers to entrepreneurship along the value chains
4. Food sovereignty – integrated CA based systems and family farms
5. Effective research, inclusive of socio-economic challenges, and targeting strategies for enhanced CA adoption
6. Harnessing the power of collaboration – networking, partnerships and communities of practice
7. Increasing CA adoption - how innovative technology, approaches, infrastructure support and policies can drive greater adoption of conservation agricultural systems in Africa

**Template for Condensed Paper submission to IACCA**

This MS Word.doc file has been formatted using the style-sheet required for your condensed paper. Use the styles as presented in this template or follow the formatting instructions below or in the annexed ‘**sample paper**’.

**Important notes to all authors**

* In the normal course, editors will not accept more than one opportunity for revision.
* Condensed papers are limited to a maximum of 3 pages including of text, tables and or figures.
* The Title should be brief but specific to the subject of your paper.
* The condensed papers should be structured in the following sections: Introduction, Methods, Results & Discussion, References, Graphs and Tables (though variations might be accepted).
* Authors’ names and addresses should be shown below the title, as specified under Author’s names and Author’s addresses below.
* A selected number of the best condensed papers will be identified for the publication of full papers in a range of high impact scientific journals.

**Language**

Condensed papers must be in either English or the French language.

**File name**

Name your completed Word document as follows:   
IACCA2014*underscore* last name *plus* initials.doc (e.g., **1acca2014\_mkomwas.doc**). Use all lowercase.

**Text**

* Use “**Times New Roman**” for all text including headings. Left align all text, images and tables.
* Use the **Normal** style for all text (style-normal) where possible in preference to "Body text" styles. Normal text should be 12 point with single line spacing.
* Do not indent the first line of a paragraph. Leave one blank line between paragraphs and before new section headings.
* Authors’ email and web addresses may be hyperlinked. Hyperlinks to external web references should be placed in the References section, rather than in the body of the paper.
* Use List Bullet or List Number styles where appropriate for dot point or numbered lists.

**Headings and sections**

* **Paper title:** 14 point, bold, sentence case (capitals for proper nouns only). If the title extends to a second line, do not use “enter” to break the line. Leave one blank line below the title.
* **Authors' names:** 12 point. First name initials should come after the family name for each author. Highlight the **presenting author** in bold. Use superscripts to indicate different addresses.
* **The Email address of the corresponding authors should be provided** below the affiliation.
* **Section Headings**: 12 point, bold, not italic for Headings 1, and 11 point italic for Headings 2.   
  Use descriptive names for Section headings where appropriate but **Introduction, Material and Methods, Results and Discussions and References**.
* **Keywords heading:** 11 point, bold.
* **Keywords:** (style-keywords) 11 point, not bold. Up to five key words not used in the Title. Leave one blank line below the key words.
* **References:** A simplified form of the Harvard system (also known as the author-date scheme) with minimal punctuation is suggested (see also attached example).

**Figures and images**

* No colour printing will be available in the book of abstracts, so make sure that your graphs, symbols and figures are readable in a black and white print.
* Figures and images should be placed in the additional page following the references. Figures and images should be self-explanatory e.g. should include caption description.
* Figures copied from graphic applications should be pasted into the Word document using **Edit>Paste Special>Picture.**
* Images in either colour or black and white are acceptable. Images files can be inserted using **Insert>Picture>From File.** Suitable formats include JPG, GIF, BMP and TIFF. Images should be cropped and reduced where possible using Photoshop or an image editor to produce a file size before inserting into Word of around 300kb or less.
* Outline boxes (such as frames) should be avoided. Do not allow images to "float" over text. Use **Format>Picture>Layout>In line with text**.
* A table with borders removed can be used to arrange two or more images or figures side by side.
* If the drawing tool is used to create a diagram, group the objects using the **Select Objects** arrow on the **Drawing toolbar** and then choose **right-click>Grouping>Group**. Right-click over the toolbars area to access the drawing toolbar.
* **Captions** for Figures and images (style-Caption) should be 11 point, left aligned, placed below the image.

**Symbols**

* As far as possible use **Insert>Symbol** and select a character from the **"normal-text**" font set at the top of the Font drop-down list rather than the **"Symbol"** or **"Wingdings"** font set.

**Tables**

* Use tables, do not use tabs or spaces to align images and text. Remove borders from tables and insert horizontal lines only as illustrated (Table 1) using **Format>Borders and shading**.
* Use the **Insert Table** button on the Standard toolbar and left align tables. Keep formatting simple.
* Captions should be placed above the table using the same Caption style and 11 point.
* Data columns should generally be centered or left aligned.

**Page Layout**

* Margins should be set at 2 cm all round.
* Do not indent paragraphs.

The papers will be studied in strict confidence by pre-selected members of the scientific committee. In case of acceptance, the author will be notified of the acceptance of the paper and/or any requested adjustments. All contributions will be summarized in a book in French and English versions, which will be distributed to participants before the beginning of the congress. The best contributions will be selected and authors requested to refine their texts into full papers for publication.

**Paper submission**

Submit condensed papers for consideration to the following address: [cacongress@act-africa.org](mailto:cacongress@act-africa.org)

A number of selected distinguished posters and videos will be honoured during the Congress.

**Calendar and key deadlines**

* 30th November 2013: Early bird registration deadline
* 10th January 2014: Deadline for submission of abstracts
* 2nd March 2014: Deadline for submission of reviewed and revised papers
* 18th – 21st March: Congress and field tour

The Congress process will consist of : Plenary Sessions; Case Studies; Special working groups (thematic parallel sessions); Field Visits; Poster/video sessions; Open time and information kiosks; Special Farmers’ Session and Special meetings around key issues/ groupings.

For further information on the congress visit:[www.act-africa.org](http://www.act-africa.org)

**Annex: Sample Paper**

**Maize Yield Increases and Stabilization under Conservation Agriculture in Semi-arid Districts of Tanzania**

**Mkomwa S**1, Mkoga Z2, Mariki W3 and Owenya M3

1African Conservation Tillage Network.P. O. Box 10375 00100 Nairobi Kenya

Corresponding author: [saidi.mkomwa@act-africa.org](mailto:saidi.mkomwa@act-africa.org)

2Uyole Agricultural Research Institute. P. O. Box 400 Mbeya Tanzania

3Selian Agricultural Research Institute. P. O. Box 624 Arusha Tanzania

**Keywords:** smallholder farming, direct seeding, ripping, cover crops

**Introduction**

Frequent crop failures resulting from improper farming practices have entrenched erratic food supplies and extreme poverty in the semi arid areas of Tanzania. The conservation agriculture (CA) intervention aims at promoting practical, short term outcomes to help farmers optimise both their labour output and utilization of existing resources to maximize capture and retention of soil moisture, expand their cropping options while sustainably conserving their farm lands, and reduce the vulnerability of farm incomes. The Conservation Agriculture for Sustainable Rural Development (CA for SARD) phase 1 was a Project funded by the Government of the Federal Republic of Germany and executed by the Food and Agriculture Organisation (FAO) of the United Nations. Regional coordination and administration functions were performed by the African Conservation Tillage Network (ACT). The project aimed to contribute to the promotion of growth and improved food security in Kenya and Tanzania through the scaling up of conservation agriculture as a sustainable land management (SLM) tool. Through an increase in the numbers of CA farmer field schools, the Project was to expand the adoption of profitable CA practices by smallholder farmers in the two East African countries. To facilitate the scaling out process the Project enhanced the supply and availability of CA equipment for farmers by stimulating private sector participation in the manufacture, retailing and hiring of equipment.

**Material and Methods**

This paper is based on the findings from samples of six to eight farmer field schools (FFS) from a total of 14 from Arumeru and Karatu Districts in Arusha Region Tanzania for three consecutive years from 2005 to 2007. Names of the FFS with villages in brackets include Ekenyo (Kilimapunga); Ikenya (Ikiushin); Ujamaa (Rhotia Kati); Tumaini (Getamock); Kinara (Tloma) and Upendo (Likamba). The gender mixed farmer groups constituted 20 – 25 smallholder farmers and were formed by voluntary membership to establish learning by experimenting with alternative crop production technologies. Participating farmers were guided by village group facilitators and ARI Selian research scientists to select tillage, weed control and cover crop treatment options considered “best bets” in ameliorating deficiencies in soil and water resources. Selected treatments were as follows: (1) Jab planter, glyphosate weed control, lablab cover crop planted after first weeding, (2) Ripping (ox ripper), glyphosate weed control, jab planting in the ripper furrow, pigeon peas intercrop, (3) Jab planter, glyphosate weed control, pigeon peas intercrop, (4) Ripping, glyphosate weed control, jab planter, lablab cover crop and (5) Farmers practice - ox ploughing, hand hoe weed control. Plot sizes varied from one FFS to another, ranging from 390 to 1440 m2. The ox ripping treatment was imposed before the first rains when the soil was friable, and to ensure the first rains were harvested with no runoff losses. Field data was collected by the farmers themselves through a participatory monitoring and evaluation approach that incorporated the empowering agricultural ecosystem analysis (AESA). Data was collected on rainfall, labour input for the field operations, soil property changes, crop disease and insect attack/coping strategies, maize grain yield and cover crop grain yield. Recommended agronomic packages in terms of crop spacing and use of improved maize seeds were practiced. However, none of the FFS used industrial fertilizers or manure.

**Results and Discussion**

*Effect of tillage.*Ripping with either lablab or pigeon peas as cover crops produced significantly different and higher grain yields (of 1,949 and 2,043 kg ha-1 ) compared to direct seeding with the jab planter (1,735 and 1,770 kg ha-1 ) and conventional ox ploughing (1,353 kg ha-1) during the first year of CA (Table 1). This was a relatively dry year with annual precipitation of 528 mm. The trend in yield increase differences continued during the second year with a relatively better rainfall of 755 mm. However, the higher yields in ripped sub-plots were not maintained in year 3 but were exceeded by the jab planter with a substantial soil cover of lablab (1,973 and 1,320 kg ha-1 for ripping with lablab and p/peas respectively compared to 2,738 for jab planting with lablab). The ox ploughed plots produced the lowest grain yield throughout.

*Effect of cover crops.*The direct seeded jab planter treatments produced the second lowest and significantly different yields during year 1. Yield trends changed in year 2 as the interaction of the established cover crops on tillage treatments started to have an effect. While ripped plots with pigeon peas produced the highest yields (3,018 kg ha -1 it was not significantly different to others, except the farmers practice), ripping with lablab produced the lowest yield of the tillage & cover crop treatments. The yield increase trends were consistent for lablab which produced and maintained the highest yield of 2,738 kg ha-1 in year 3 (in a year with a grand mean of 1,697 kg ha-1) while pigeon peas dropped drastically to 1,320 kg ha-1.

*Yield variations across sites.* Yields across different FFS varied greatly (from a maximum of 7.6 tons/ha in Rhotia Kati for ripper with pigeon peas to 0.2 tons/ha for the farmers’ practice in Getamock), which was understandable due to the differing farmer management skills and the initial degraded status of the fields.

*Preferred CA technologies.* Participating FFS members were encouraged to choose preferred CA technological packages for implementation in their individual farms. Of the 352 households practicing CA, 206 (64%) are FFS group members while the remaining 146 are non-FFS members enticed by the benefits of CA. The preferred planting/tillage technologies are the ripper (61%) for FFS members; most of them complimented by the jab planter for seed placement, while a few farmers place the seeds manually in the ripper furrow and cover by foot.

*Gender implications to CA.* Women constituted 33% of the members of the FFS during formation of the groups. Of the total 206 adopters from 8 FFS, 136 (66%) are women. Interviewed farmers in Karatu explained that 90% of their active participants are women who see an opportunity to feed their families, improve livelihoods and that most of the men are no longer available for agricultural work as they are employed in the tourism industry.

**References**

Ley G J, Mkomwa SS, Mtakwa PW, Mbwaga AM. 2003. Diagnosis and amelioration of plough pans in eastern and southern highlands zones of Tanzania. In: *Proceedings of the Collaborative Research Workshop, Ministry of Agriculture and Food Security and Sokoine University of Agriculture, Morogoro Tanzania, 28–29 May 2003.* Morogoro: Tanzania Agricultural Research Project Phase Two and Sokoine University of Agriculture, PO Box 3151, Chuo Kikuu, Morogoro. Tanzania. p. 138–147.

[URT] Tanzania, United Republic of, Ministry of Agriculture and Food Security. 2001. Development of conservation and no tillage based systems for sustainable use of the natural resource base. Project proposal in support of Soil Fertility Initiative.41 p.

**Figures and Tables**

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**Figure 1.**Maize grain yields (kg/ha) with different CA treatments and over time in Arumeru and Karatu Districts in Arusha Tanzania.

**Table 1.** Maize Grain Yield (Means for 6 FFS plots)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Treatment | Maize grain yield (kg/ha) | | |
| 2005 | 2006 | 2007 |
| 1 | Jab planter, glyphosate, lablab | 1,735 | 2,889 | 2,738 |
| 2 | Ripping, glyphosate, jab, p/peas | 1,949 | 3,018 | 1,973 |
| 3 | Jab planter, glyphosate, p/peas | 1,770 | 2,566 | 1,369 |
| 4 | Ripping, glyphosate, jab, lablab | 2,043 | 2,357 | 1,320 |
| 5 | Farmer’s practice, ox ploughing | 1,353 | 1,502 | 993 |
|  | Grand mean | 1,770 | 2,466 | 1,679 |
|  | Annual rainfall (mm) | 528 | 755 | 988 (532**[[1]](#footnote-1)**) |

Source: ARI Selian field data, 2007; Arusha foundation seed farm (some rainfall records).

**Table 2:** Percentage of adopters within 8 FFS practicing different aspects of CA

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No | CA Technique | Percentage practicing | | Total CA adoption |
| FFS members  (206) | Non-FFS  (146) |
| 1 | Ripping | 61 | 56 |  |
| 2 | H hoe planting | 2 | 39 |  |
| 3 | D seeding jab | 57 | 26 |  |
| 4 | D seeding DS | 12 | 20 |  |
| 5  6 | Lablab  Pigeon peas | 66  69 | 67  53 |  |
|  | Adoption (compared to base)  Area (hectares under CA) | 151 | 60 | 71% |
|  | Average household area (acres) | 0.75 | 1.03 |  |

1. Although the annual precipitation was high (988 mm), distribution was poor as only 532 mm were available for the cropping season. [↑](#footnote-ref-1)