

Inaugural Speech

8th World Congress on Conservation Agriculture

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Friends,

This is an historic day for the CA movement. It was twenty years ago that ECAF, the European Conservation Agriculture Federation, organized the First World Congress on Conservation Agriculture in partnership with FAO. Today, thanks to continued support from FAO and ECAF as well as other sponsors and especially SWISS NO-TILL, we are gathered together here in Bern and all around the world to celebrate our success as the drivers of the biggest farming revolution to have occurred in our lifetimes.

Let us celebrate our joint engagement and contribution to transforming farming from being the main source of land degradation globally, to becoming a driving force for conserving and rebuilding healthy soils and agroecosystems so that they can sustainably meet the world's future needs for food and other farm products while helping to slow the pace of climate change and ecological breakdown. Let us celebrate our part in the

transformation of farming, from being a contributor to the many interconnected crises facing the world, to being a key part of the solution.

It is no exaggeration to claim that our achievement in engaging millions of farmers across every continent in what has become known as Conservation Agriculture – or CA – has been a massive game-changer.

We can and should take great pride in all we have done but we still face huge challenges to complete our revolution so that what we have pioneered is steadily improved and becomes the global norm in farming. Our task during these 3 days on-line, and in the field days, is to shape the future directions in which we need to move together to achieve this in the shortest possible time. For this, we must apply lessons from our collective experience over the past 50 years or so.

We have come this far because of the foresight and determination of some remarkable visionaries and pioneers – mostly farmers – in the USA, South America, Asia, Africa, Europe and Australia. These pioneers saw that conventional tillage, involving frequent inversion of the topsoil, was damaging the structure of soils, reducing their organic matter content, and making them susceptible to erosion by wind and water. They showed us that we could grow productive crops without digging or ploughing, and they devoted their lives to improving

CA technologies and sharing them with others in their own countries and beyond.

Rather than list these pioneers by name, I invite each of you to think back to the beginnings of CA in your own country and to reflect on the exceptional people who challenged conventional wisdom and put their ploughs aside.

One of the most notable of the early CA pioneers in the Global South was Dr. Herbert Bartz who sadly died recently. In 1972, with encouragement from Rolf Derpsch from GTZ, he became the first Brazilian farmer to throw away his plough. From then on, he devoted his life to improving CA techniques and promoting CA in Brazil and globally. Now, Brazil has become a leading CA nation with 43 million ha – or nearly 80% of its annual cropland - under various forms of no-till agriculture.

Herbert was hoping to be with us today and had prepared a brief video message to inspire us to follow in his footsteps. I am delighted that his daughter, Marie, has joined us in this Congress, and she will have more to say about her father this evening at the Social event where she will be showing the video.

I invite you to watch another video now which Herbert made not long ago for a CA Congress in Africa.

<https://www.dropbox.com/s/7sy1hu5kfv54q3m/chamada%20herbert%20bartz-v2.mp4?dl=0>

Let me now briefly touch on our achievements

When the pioneers of ***No-Till*** said that good crops could be grown without digging or ploughing, most farmers laughed in disbelief and dismissed them as dreamers.

Now, just half a century later, millions of farmers all over the world have taken them seriously. They have embarked voluntarily on all kinds of CA systems, no longer carrying out any tillage on their farms.

The global area farmed using CA systems has risen from less than 1 million ha in 8 countries in 1970 to 205 million ha in 102 countries in 2019. This is 15% of the world's cropland area. In Argentina, Australia, Brazil, Canada, Paraguay, South Africa, Uruguay and the USA, CA methods are applied on more than half their cropped area.

From 1990 to 2009, the CA area globally increased at an average annual rate of 5.2 million ha, reaching about 100 million ha in 2008. From then on until now, the CA area expanded at double that rate, attaining an average of 10.5 million ha per year. This was largely because the global CA Community of Practice (CA-CoP) was established in 2008, with its own communication and

networking platform, and began to globalize CA through the farmer-led CA movement worldwide.

The CA-CoP, of which I am Moderator, is a fast-growing open-ended community in which any person or institution interested in CA is welcome. While its network and mailing lists extend its reach, it has no list of members, no membership fees, no hierarchical structure and no officers with executive powers. It is glued together by its adherents' commitment to farming without soil tillage, their natural inclination to innovate and their enthusiasm to share their experiences. This has led to the formation of many local CA groups which, in turn, are linked to regional groups in regular contact with the Moderator.

With the valuable patronage of FAO and much goodwill and support from other international entities, the Global CA-CoP has come to play an important catalytic and facilitating role, including the promotion of regional programmes and national activities, sharing experiences, making information, especially on innovations, widely accessible, and engaging donors and financing agencies in funding local CA programmes.

All of this has been done with the intent that farmers remain in the driving seat. The triennial Congresses provide the opportunity for all interested parties to take stock of progress, to share experiences and ideas, and

to chart the future directions in which the Community will seek to move.

This has clearly succeeded! CA is now practiced in all major climate zones in which there is farmed land – from the warm humid tropics to the cool temperate areas. And it is applied in all the world's main farming systems. It has taken hold in rainfed and irrigated areas, short-term and perennial crops, mixed crop-animal farms and organic systems. It has been adopted by large-scale mechanised farms and by smaller farms where most of the work is manual.

CA has also evolved into a wide range of complex farming systems which make the most of the improved soil conditions created by the absence of tillage.

But in spite of all of this, our movement remains vulnerable to possible changes in the governance of our global food system.

A surprising threat could come from transnational corporations, convened by the World Economic Forum in Davos, which have declared a *4th industrial revolution*. This would be based on harnessing 'big data' to tell every farmer what to grow and when to plant, and to manipulate consumers' food choices. While they claim that this will cure the ills of the global food

governance system, I feel bound to ask: Will this address degradation of our common resources and the planet? Will this meet the needs of small-scale farmers and protect their seed, land and food sovereignty? Will this change our food distribution system to a more equitable one that would eliminate hunger and lead us to healthier diets?

In raising these questions, I am not denying that there are many valuable opportunities for widening the use of digital tools to empower farmers and consumers to make better choices – but without infringing on their rights to make their own decisions.

The reality is that we are the great farming revolutionaries of our time for large- and small-scale farmers. Together, by translating our knowledge and convictions into practical action on the ground, we are leading the most transformational revolution in how land is farmed since the inversion plough was invented in the mid-17th century. We have successfully challenged the universally held assumption that most land has to be regularly and intensively tilled and chemicalized to be productive and profitable. We are also proving that the widely held view that smallholders have no future is nonsense.

We do this because we believe in it, based on the evidence generated by the early no-till farmers. Nobody

has had to order us to stop ploughing and digging and nobody has had to pay us to change our ways!

Farmers are the initiators and drivers of the CA movement, its main innovators, and its main promoters. Their success, including spreading and adapting CA into new ecologies and farming systems, has led to the growing involvement of scientists and created a demand for specialised equipment and inputs that has expanded the participation of the private sector in our revolution.

The main motivation for farmers' engagement has been CA's potential for net gains in productivity and incomes. By eliminating tillage, larger farmers have cut spending on farm machinery, inputs and fuel, while small-scale farmers have not only made big savings in time and human energy from excluding deep hand-digging, but they have also found that they can move into CA with few purchased inputs and rely on their own seeds.

Formal research systems have become increasingly engaged in comparing the impacts of different CA interventions especially on soil structure and biology, moisture retention, carbon sequestration and pesticide-free weed and pest-management. There is now a huge raft of easily accessible scientific studies on almost every dimension of CA applications. Thanks to the expanding databases of CA networks, FAO and Cornell

University, information is easily accessible on almost every dimension of CA in text-books, and in scientific and technical studies. In future, however, researchers and farmers must do much more to team up in generating new CA systems knowledge.

One feature of CA is that its adoption and spread does not follow traditional linear agricultural extension models that transfer the findings of researchers to farmers. Instead, farmers themselves play the major role in innovation through CA Farmer Associations, Farmer Field Schools, Clubs and Networks as well as through community engagement. These social institutions offer opportunities for sharing knowledge and for cultivating solidarity that stimulate change and self-empowerment. This works effectively for all farmers when their skills, and needs for seed, land and food sovereignty are respected and supported by governments and stakeholders in the public and private sectors.

True, the private sector has responded well to demand especially for machinery and inputs, but in many places, CA farmers call the shots and the private sector has to offer a mutually beneficial service support along the value chain.

We are pushing ahead with CA and improving it as we go, mainly because we have found our incomes rising and the quality of our farmland improving.

CA differs from the dominant 'industrial' approaches to tillage farming that have been driven by the goal of ever greater intensification, aimed at maximising yields. They use more and more inputs and need ever bigger investments. Over time, they all too often damage or destroy the soils and environment that provide the foundations for food production and environmental or ecosystem services, and also put human health at risk of nutritional disorders.

In spite of CA's rapid spread, tillage-based agricultural intensification continues to cause vast physical and biological soil degradation and erosion, forcing the abandonment of once productive agricultural lands, increasing the frequency of flood damage, polluting our environment with toxic chemicals, releasing high levels of greenhouse gases, wiping out biodiversity, and reducing adaptability and resilience to biotic and abiotic stresses as well as fostering resistance to antibiotics.

It seems to come naturally nowadays for humans, at least in so-called 'developed countries', to think that more is better. We now realise that satisfying the desire for more and more material things without considering their environmental impact is putting at risk the future

of our children and grandchildren, and of all those with whom we share the planet.

CA's success comes from deliberately moving in exactly the opposite direction. We are getting more from less and bequeathing a healthier planet to future generations. We have already shown the ability of CA's core practices of no-till, soil mulching and crop diversification to provide an effective foundation for integrated biological pest management and for drastically reducing agrochemical use. We have also shown in several environments with smallholders and large-scale farmers the avoidance of the use of pesticides for controlling weeds, insects and pathogens through for example Push-Pull strategies, techniques of planting green involving green manure cover crop mixtures, and manipulation of soil fungi-to-bacteria ratios. And many smallholder farmers are practicing CA without the use of any agrochemicals. This is why FAO placed CA at the core of their 'Save and Grow' global strategy for sustainable production intensification.

CA is good for all farmers, good for the land, good for the planet and good for people.

Let us now look to the future of CA

There is no doubt that CA is a success story that is here to stay and that it will continue to grow fast. But what

about our expectations for the outcomes of this Congress?

The organizers of the Congress are convinced that CA must be the mainstay of the shift that the world has to make urgently towards sustainable farming and food systems. This is because we know that, for as long as most soils continue to be damaged by tillage, the world cannot reach the goal of making food systems sustainable.

But we also recognise that some aspects of No-Till systems, as they are now generally practiced, are restricting sustainability. Specifically, some No-Till systems with poor cropping diversity still remain too dependent on pesticides (especially herbicides), on mineral nitrogen fertilizers, and on unduly heavy farm machinery driven by fossil fuels.

I am sure that you will all agree that this has to change.

Within our global Community there are many precedents for moves in the right directions, but we need to throw our weight behind accelerating their enhancement and uptake, so that CA becomes synonymous with sustainable farming for the future.

We also know that we cannot go it alone. We must engage globally and locally with the champions of other

essential elements of sustainable farming, especially those engaged in organic farming, integrated pest management, agroecology and regenerative farming systems in their various guises. In return, all these farming systems can be helped to harness CA principles and practices. **If we do not share our experiences, help each other and pull together, many of the international Sustainable Development Goals – the SDGs – relating to food, natural resources management and climate change will be unattainable. We also have an important role to play in the recently launched UN Decade on Ecosystem Restoration 2021-2030.**

I also suggest for your consideration that the time may have come for our Community to begin to help to shape food consumption patterns in ways that will relieve pressure on the world's finite area of cultivable land rather than destroy forests and other vulnerable ecologies to expand farmed land, with doubly negative effects on the rate of climate change. Fortunately, we are faced with a win-win-win opportunity, as the area under farming can be greatly reduced, environmental damage curbed and human health improved by inducing a shift towards predominantly plant-based diets: this, in turn, would cut demand for livestock feeds which has been a main driver of the recent damaging expansion in cropped areas especially in tropical regions.

It is against this background that I suggest that this Congress may wish to signal its support for a notional goal of having good quality CA-based systems fully applied on at least 50% of the world's annual cropland area or 700 million ha by 2050.

I believe this is an attainable goal given that the global CA movement doubled the rate of uptake of CA during the last decade. The big challenge will be to graft the other essential elements of sustainable farming into all our programmes – including those in the existing 200 million ha already applying CA.

Achieving this goal would require a massive boost to the momentum of our Community's activities with a concentration on the following six themes:

- 1. Catalysing the formation of additional farmer-run CA groups in countries and regions in which they do not yet exist and enabling all groups to accelerate CA adoption and enhancement.**
- 2. Greatly speeding up the invention and mainstreaming of a growing array of truly sustainable CA-based technologies, including through engaging with other movements committed to sustainable farming.**

3. Embedding the CA Community in the main global efforts to shift to sustainable food management and governance systems and replicating the arrangements at local levels.

4. Assuring that CA farmers are justly rewarded for their generation of public goods and environmental services.

5. Mobilizing recognition, institutional support and additional funding from governments and international development institutions to support CA programme expansion.

6. Building global public awareness of the steps being taken by our CA Community to make food production and consumption sustainable.

To move forward with this, strengthening of the Moderator capacity within the CA Community is now needed. Much thought must still to be given to this, but one thing is clear: we must retain the concept that, as now, our future actions must be guided mainly by a growing team of volunteers coming from within our midst who are committed to giving their expertise, time and energy to enhancing and spreading CA systems.

Earlier, I paid tribute to our pioneers and champions. With millions of farmers now applying CA in its many variants across the world, I feel confident that plenty of

people will signal their willingness to dedicate themselves to moving our activities forward.

One of the few positive by-products of the COVID pandemic is that it has stimulated great advances in information and communications technology. We are applying some of these in this largely virtual Congress. Any new actions need to take the fullest possible advantage of these innovations. One important implication is that all those involved in any new programme moderation arrangements can make most of their inputs from where they live.

Of equal significance is the huge opportunity that these technologies offer for accelerating the spread of advances in knowledge across our Community and beyond. The Community's strength has been built on farmer-to-farmer sharing of experience, usually within their own localities and sometimes through country exchange visits. Now these farmer-to-farmer exchanges can instantaneously become global.

And so, we shall nurture the emergence of a stronger moderating mechanism that will function almost entirely virtually. It would enjoy the guidance of an advisory panel, representing regional and national interests and those of cooperating institutions. It would have the capacity and power to set up task forces to

push forwards on each of the 6 main themes – and any more that might be added. And it would need to have a permanent IT systems development and operating capacity. It would also oversee and support future processes for convening CA World Congresses. Finally, it would have to be set up as an entity – perhaps as a non-profit organisation -- with sound financial management, programme monitoring and reporting capacities.

Finally, though this may seem a minor issue, I also propose that we convene a small working group to set up arrangements for honouring our pioneers through creating a CA Hall-of-Fame in time for the 9th Congress.

To get started immediately on this expanded agenda, ECAF has generously agreed that elements of the Congress Secretariat can continue to assist the Moderator in moving ahead with these new arrangements. I hope that we can also continue to benefit from the patronage offered by FAO since our work began.

I am confident that this Congress will, like earlier ones, give a great boost to our efforts and set the stage for a very bright future – a future in which our Community will play a hugely important part in the race to make the world's food systems properly sustainable.

Thank you all for joining us at this challenging moment in our history.

My very best wishes to you all for a truly inspiring Congress.

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