Technical Workshop

Integrating sustainability into agricultural practice: Assessment methods, technology appraisal, management concepts

13-15 March 2019, Wageningen, The Netherlands

Over the last 50 years the EU Common Agricultural Policy (CAP) has encouraged intensification of production, now typified by large-scale commercial farming of livestock and a restricted range of arable crops (often under irrigation), with increased use of pesticides, fertilizers and other chemical inputs. This has contributed to a range of environmental problems, including climate change by a significant (20-30%) contribution to greenhouse gas (GHG) emissions, pollution of water bodies (rivers, lakes, groundwater and seas) by inputs of nutrients (NH_4, NO_3, PO_5), damage to ecosystem biodiversity and degradation of soil quality.

This 2-day workshop, hosted at Wageningen University in the Netherlands, will present a critical analysis of current approaches for the sustainable intensification of agriculture (SIA), focused on the management of carbon, nutrients and pesticides in view of their impacts on soil, groundwater, drinking water and surface water quality. This will be considered from different perspectives, including assessment methods, management practices and technologies accounting for experimental knowledge, stakeholder participation and adaptive management methods.

Participants will gain insight into: (i) state-of-the-art assessment methodologies necessary to interpret carbon, nitrogen and phosphorus cycles and impacts in environmental systems, (ii) technologies and mitigation practices to recover N and P from agricultural wastes or reduce their losses to water, and (iii) integrative decision-making frameworks to select and manage agricultural production methods which support sustainable intensification across different scales.

The workshop will be presented by technical experts, researchers, practitioners and farming representatives from Wageningen University and WML (The Netherlands), Teagasc (Ireland), and VITO and YARA (Belgium). The programme includes technical sessions and a hosted field trip to demonstrate management approaches and consolidate participant understanding of theoretical concepts and practical application of SIA. The event is open to external participants including, but not limited to, stakeholders, practitioners, managers, researchers and students with interests in the assessment and management of carbon, nutrient and pesticide impacts in the environment. Participants with backgrounds in agricultural/environmental engineering and management, agronomy, environmental sciences, social sciences and policy are encouraged to attend. The course will be attended by scientists and researchers from the INSPIRATION Marie Skłodowska-Curie Innovative Training Network (www.inspirationitn.eu), who will contribute to the technical presentations, providing a unique opportunity for networking with leading experts in the field.

Further information on the technical programme, joining instructions and venue for the workshop is provided overleaf.

Programme

Wednesday afternoon: 13 March 2019

13.00-15.15:	*Assessment methods*
Welcome:	Wim de Vries (Wageningen University and Research: WUR, The Netherlands)
Theme:	**Sustainability indicators and its assessment: principles and practice**
Approach:	Presentations of 30 minutes, followed by 15 minutes questions/discussion
13.00-13.45	Integrating sustainability into agricultural practice: insights from the H2020 Landmark project (Francesca Bampa, WUR, The Netherlands)
13.45-14.30	Quantifying required and critical carbon, nitrogen and phosphorus inputs in view of soil, air and water quality (Wim De Vries/Gerard Ros: WUR, The Netherlands)
14.30-15.15	The "KringloopWijzer" an CNP excretion/emission tool used in Dutch agriculture. (Koos Verloop, WUR, The Netherlands)
15.15-15.45	Coffee break
15.45-17.15:	*Technology appraisal*
Theme:	**Recovery of N and P from agricultural wastes and mitigation practices to reduce N and P losses to water**
Approach:	Lectures of 30 minutes, followed by 15 minutes questions/discussion
15.45-16.30	Approaches to recover N and P in manure and sludge: from principles to practice (Inge Regelink: WUR, The Netherlands)
16.30-17.15	Approaches to characterize and reduce N and P losses in runoff (Owen Fenton, Teagasc, Ireland).

Thursday: 14 March 2019

Theme:	**Sustainable agricultural management concepts: principles and practice**
Approach:	Excursion, followed by presentations of 30 minutes and 15 minutes questions/discussion: first presentation will be 45 minutes by 2 speakers
09:00-15:00	Excursion to dairy farm Groot Steinfort in Joppe Farmer/manager Erik Smale, who has studied at WUR, will present his innovative approach to developing sustainable farming practices. Lunch provided on location.
15.00-16.00	Promising management approaches to maintain crop yields, increase nutrient use efficiency and improve soil quality (Gerard Ros, Janjo de Haan WUR, The Netherlands)
16.00-16.45	The multi actor approach enabling engagement of actors in sustainable use of chemicals in agriculture (Ingeborg Joris, VITO, Belgium)
16.45-17.30	Role of the private sector in promoting resource-efficient agricultural knowledge in Europe (Koen van Keer, YARA, Belgium)

Programme & Registration

Friday morning: 15 March 2019

Theme:	**Sustainable agricultural management concepts: principles and practice (cont'd)**
Approach:	Presentations of 30 (first 45) minutes, followed by 15 minutes questions/discussion
09.00-10.00	Stimulating management practices combining agricultural production with other ecosystem services (Lenny van Bussel/Gerard Ros/Johan Bouma, WUR, The Netherlands)
10.00-10.30	Coffee break
10.30-11.15	Involving farmers to improve ground water quality in a drinking water area in the Netherlands (Frans Vaessen, WML, The Netherlands)
11.15-12.00	Decision support systems for sustainable intensification of agriculture in view of crop yield, soil quality and water quality (Maddy Young. WUR, The Netherlands, and Gisela Quaglia, VITO, Belgium).
12.00-13.00	Group-based activity on qualitative evaluation of management measures in view of their potential for sustainable agriculture
13.00	Close of workshop

What is provided

A hardcopy copy of the lecture notes for each session and field trip will be provided to participants. Refreshments will be provided on each day, but participants are expected to pay for their own meals (except lunch for the field visit) and accommodation during the workshop.

Registration

Registration for this workshop is essential as places are limited. The deadline for registration is **1 March 2019**. To register please contact Dr Gabriella Kakonyi (g.kakonyi@sheffield.ac.uk). Technical enquires should be directed to Prof Wim de Vries (wim.devries@wur.nl). A Certificate of Attendance will be provided to participants wishing to attend for CPD training. Please indicate any dietary requirements for the field trip lunch at the time of registration.

Costs

The fee for the workshop is €200, payable electronically upon receipt of registration. This covers course notes, coffee/tea breaks, field site visit (with lunch) and Certificate of Attendance. Single occupancy accommodation (incl. breakfast) is available at a discounted price of €100 per night at WICC. Twin occupancy room are also available on request for €65 per person per night (details provided below).

Venue & Travel Information

Venue

The workshop will be hosted in the Wageningen International Conference Centre (WICC), also denoted as Hof van Wageningen, and in the Atlas Building at the campus of Wageningen University and research (WUR), Wageningen, The Netherlands.

Addresses
Hof van Wageningen, Lawickse Allee 9, 6701 AN Wageningen :
https://www.wicc.nl/congres-hotel-gelderland/

Atlas Building (Building 104), Droevendaalsesteeg 4, 6708 PB Wageningen: https://www.wur.nl/en/location/Atlas-building-number-104.htm

The location of each session during the workshop is indicated below.

Date	Time	Place
Wed 13-03-2019	13.00 – 17.30	WICC
Thu 14-03-2019	08.30 – 15.00	Excursion. Departure from WICC and ending at WUR
Thu 14-03-2019	15.00 – 17.30	WUR Campus, Atlas 1 en 2
Fri 15-03-2019	08.30 – 13.00	WICC

Travel information

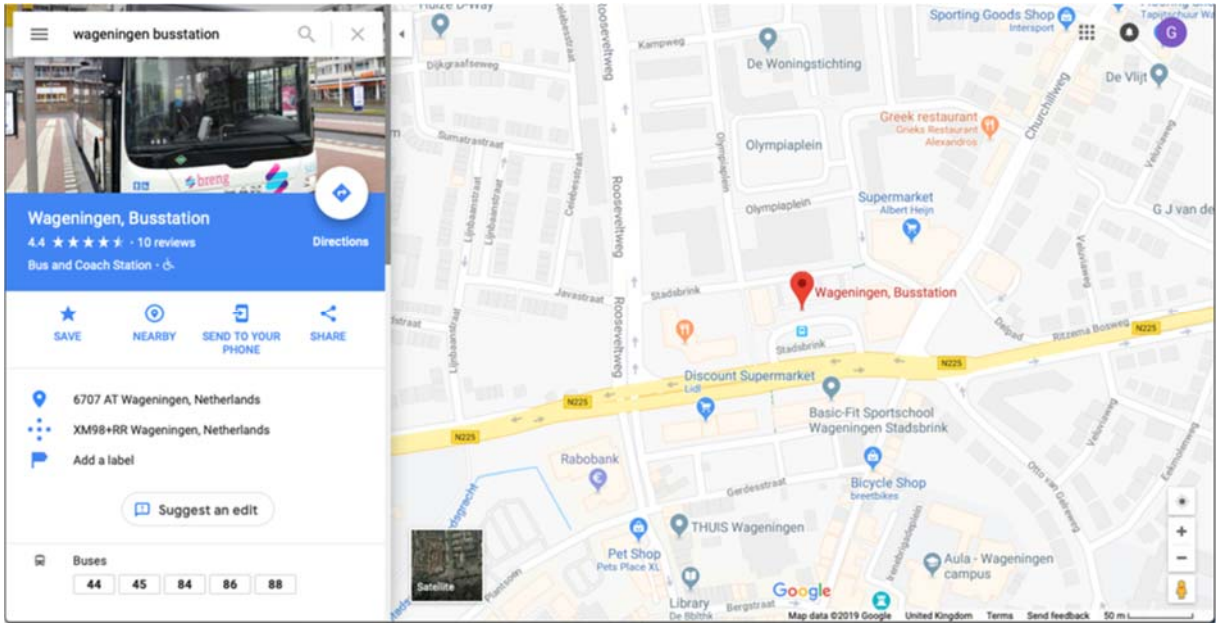
Most international visitors arrive at Schiphol Airport (Amsterdam). Follow the signs from the Schiphol Arrival Hall to the Railway Station: 'to the trains'. At the train station you can purchase a ticket to Ede-Wageningen from one of the yellow vending machines or at the NS Service Desk.

Trains depart from Schiphol Airport to Ede-Wageningen via Utrecht almost every 15 minutes. Take a direct train to Ede-Wageningen or take an intercity train from Schiphol to Utrecht. Once in Utrecht, switch to a train in the direction of Arnhem or Nijmegen. Your final stop is Ede-Wageningen. Travel time from Schiphol to Ede-Wageningen is approximately 60 to 75 minutes.

The Valleilijn bus (line 84 and 88) runs between Ede-Wageningen station and the bus station in Wageningen, and passes Wageningen Campus. During rush hour there is a bus every ten minutes, outside rush hour every quarter and in the late hours it is a half-hour service. More information on live departures and arrivals can be found at : www.valleilijn.nl. From the bus station in Wageningen, Stadsbrink, it is a 5 minute walk to WICC via the Lawickse Allee (see pictures).

When you stop at Wageningen Campus, you have to go to the Atlas Building, which it is the first building on your left hand side. More information on how to reach Wageningen Campus is given on: https://www.wageningencampus.nl/en/campus/about/contact.htm

Maps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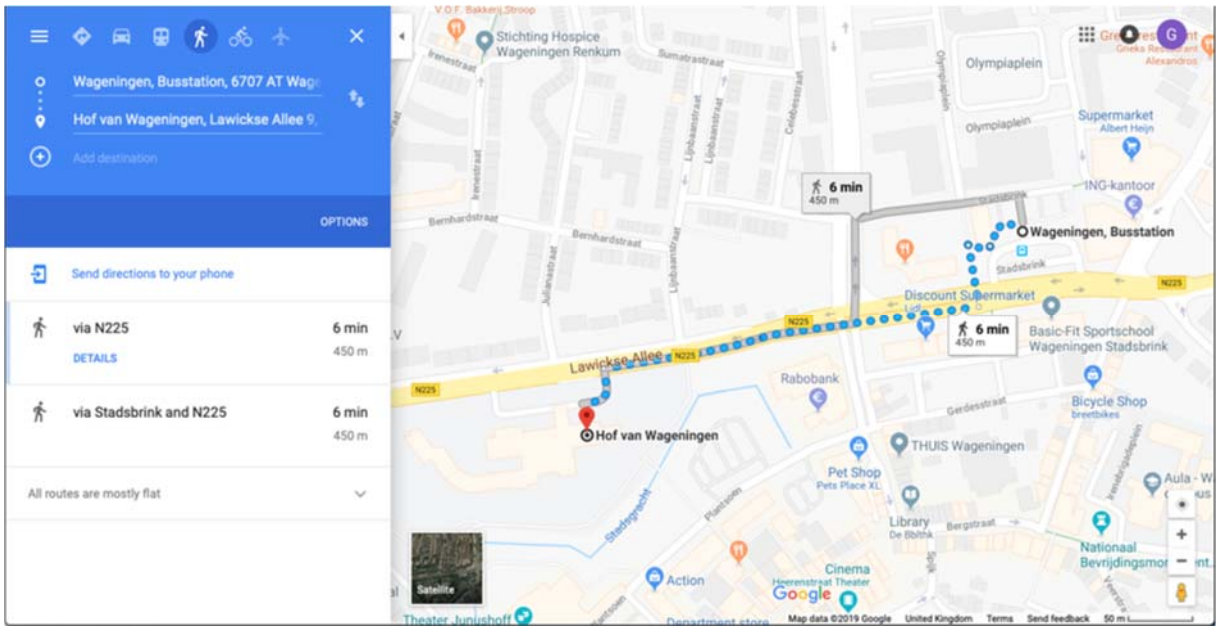
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