



Research-Based Participatory Approaches For Adopting Conservation Agriculture In The Mediterranean Area: The CAMA Project

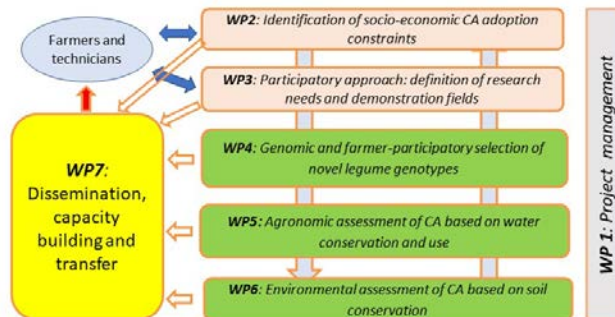
Michele Rinaldi

Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria –
Centro di ricerca Cerealicoltura e Colture Industriali, Foggia

Autore corrispondente: michele.rinaldi@crea.gov.it

Introduction

Conservation Agriculture (CA) is based on three key principles, namely, no- or minimum-tillage, soil cover with crop residues, and use of crop rotations (e.g. Hobbs, 2007; Thierfelder et al., 2013). Crop residue disposal on soil surface is expected to increase soil carbon content, compared to conventional, tillage-based cropping, where residues are generally removed from the field. Besides, based on experimental evidence of increased water productivity under sub-optimal rainfall conditions (Rinaldi et al., 2017) and better soil moisture content (Colecchia et al., 2015), CA has been attributed the potential for mitigating negative effects from future climate change, when rainfall is projected to decrease and be more unreliable. Adoption rates of CA in Mediterranean countries, however, remain low despite more than three decades of research, development investments and, in the EU countries, economic subsidies, representing about 2% of the arable crop area for EU countries and 0.8% only for African countries.



References:

Colecchia, et al., 2015.
Cereal Research Communications.
Hobbs PR, et al., 2007. Phil. Trans. R. Soc. B.
Rinaldi, M., et al., 2017. Computers and Electronics in Agriculture.
Thierfelder, C, et al., 2013. Int. J. Agr. Sustainability.

Organisation	Country
CREA (CI, ZA, AA, PB)	Italy
AGROMNIA	Italy
ARVALIS	France
IAMZ-CIHEAM	Spain
Univ. of Lleida	Spain
CSIC	Spain
APOSOLO	Portugal
INIAV	Portugal
HAO-Demeter	Greece
INRAT	Tunisia
APAD	Tunisia
ENSA	Algeria
INRA	Morocco

Aims

The major innovation of CAMA project, funded by PRIMA Foundation in the Call 2019, is to overcome the obstacles – social-economic-agronomic-technological - to the CA diffusion in the 8 target countries of the Mediterranean basin, with the participation of local farmers' associations, technicians and stakeholders.

The main objectives are:

1. Identifying the major social, economic and agronomic barriers to CA implementation by smallholders of Mediterranean countries;
2. Establishing a network of CA experiments and farmers associations adopting CA to apply a participatory research approach;
3. Improving legume-based rotations in rainfed CA cropping systems, with genomic and farmer-participatory research aimed to enhance legume crop yield and resilience and research on crop/residues management;
4. Quantifying the effects of CA application and developing agronomic innovation, to increase soil fertility, soil physical status, nitrogen and water use efficiencies, and to decrease soil erosion;
5. Disseminating the CA concept and techniques in Mediterranean countries, tailoring them to the specific pedo-climatic and socio-economic conditions;
6. Increasing technicians', advisors' and farmers' know-how for a better adoption of CA, by the organisation of two training courses.

Implementation

The CAMA Consortium partners are highly experienced in CA and have been working together in previous projects. Some partners are farmers' associations (APOSOLO, APAD and AGROMNIA), seven are research institutions (CREA, INRA, INRAT, ARVALIS, CSIC, INIAV, HAO-Demeter), two are universities (UdL, ENSA) and one is an International Organization specialized in agricultural post-graduate training and cooperation (IAMZ-CIHEAM). The 13 partners belong to 8 Countries all representatives of pedo-climatic and social conditions of the Mediterranean Countries. The field experiment sites, mainly long-term experiments about conservation agriculture, will be monitored and supplemental research activities about yield stability, soil chemical and hydraulic characteristics will be carried out. The structure of the project in 8 Work-Packages will allow a good interrelationships among partners and data flow, as well as an efficient development of C&D activities. The training courses will have as target the technicians of Northern Africa Countries; field visits, workshops, scientific and technical publications, and web results dissemination are also planned.

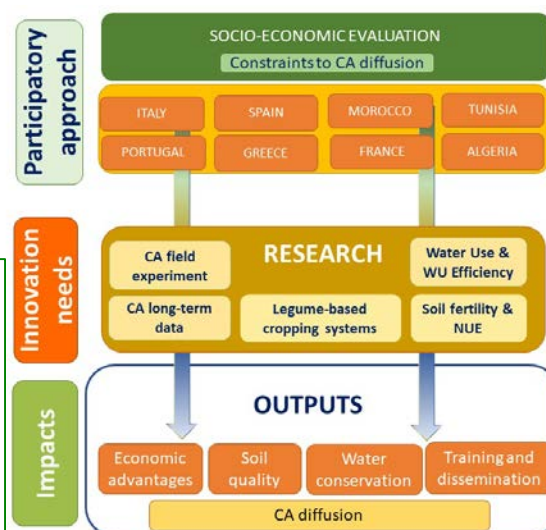


Fig. 1. CAMA project structure

Acknowledgments: CAMA Project received the financial funding by PRIMA (Grant Agreement n. 1912), a programme supported by the European Union.

Fig. 2. CAMA information flow among WPs.