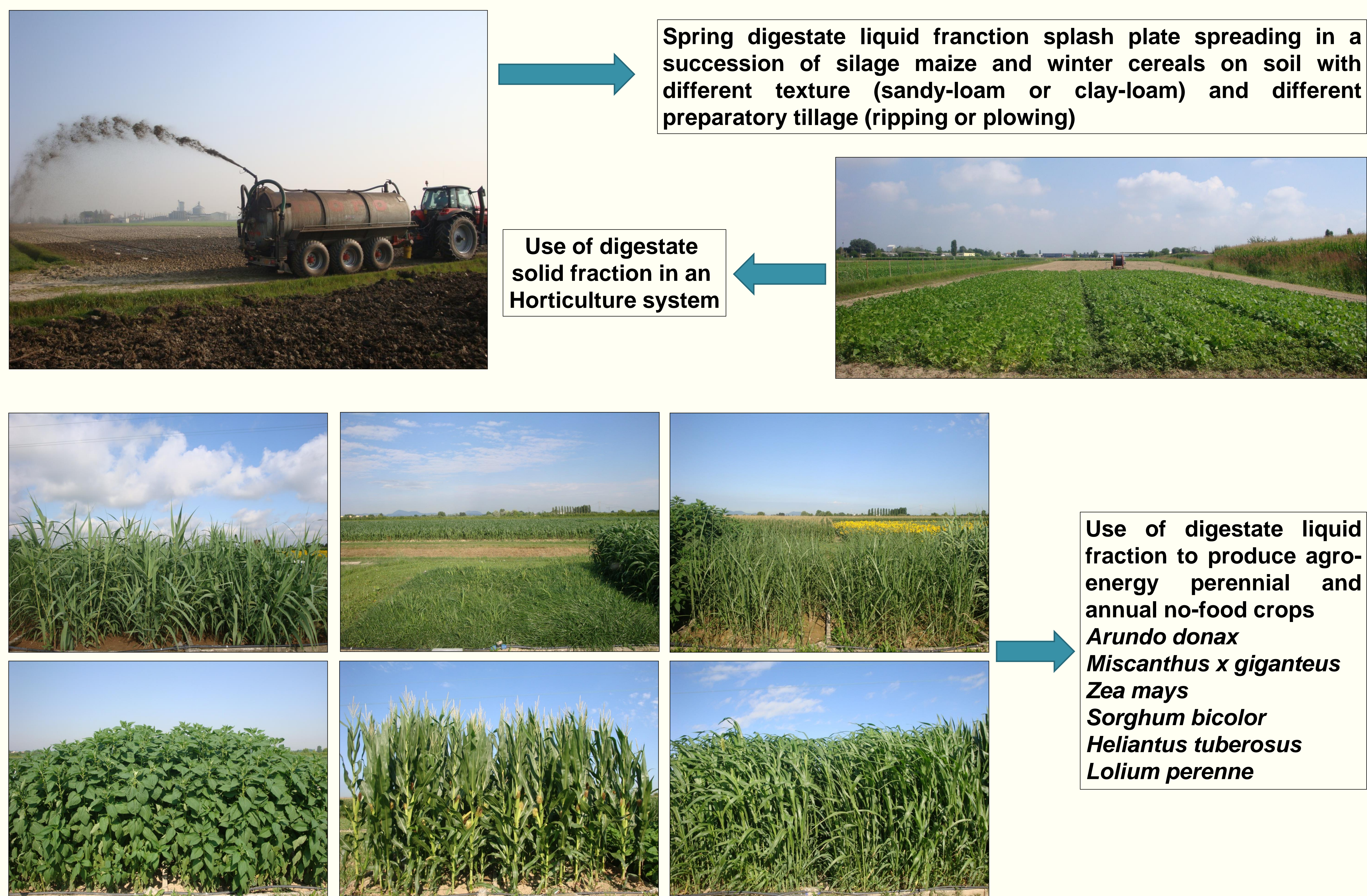


INTRODUCTION

In Italy biogas production represents the most widespread energy source obtained from biomass. The digestate, obtained as byproducts, presents adequate characteristics to be applied to fields as fertilizer. At present few information are available on the effects of digestate distribution on crop response and greenhouse gas emissions.

A research carried out at plot and field scale has been initiated in 2014 to study the CO₂ emission during and after digestate spreading.

METHODS



FIRST RESULTS

First field results, after 24 hours digestate spreading, shown a significantly higher CO₂ flux emission peak comparing with no-spreaded soils. Spring digestate distribution, in the first 340 hours promoted higher average CO₂ emission from sandy-loam soil than clay-loam one with respectively 4.4 ± 6.8 and 1.1 ± 1.7 CO₂ g m⁻² h⁻¹. No significant effect on CO₂ emission was detected in relation to soil tillage techniques.

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