All remarks were taken under consideration and put into the text which we sent in the attachment.

Referee 2:

1) Introduction is not clear. We don't observe clearly objectives of the paper. Authors propose a limited number of references concerning the proposed discussion. The paper organization is not clearly proposed.

The improvement of the text and paper organization has been done.

2) section 1.2. Authors present ground truth measurements without any quantitative details concerning measurements and dates of acquisitions.

The dates of ground measurements were matched to the satellite acquisitions (Table D) and were done from April to Septembers in the years 2003-2004 and 2008-2009.

3) section 1.3 satellite: authors don't propose any detail about satellite data (dates of acquisition, configurations of radar measurements, number of images. . .)

All those information are included in the Table D.

4) sections 2. and 3. propose titles which not correspond to scientific objectives.

Not changed.

5) section 2. The authors talk about relationship between NDVI and LAI. Relationship is not written. There is no validation. Statistical error estimation is not clear (mean difference??, what about RMSE, correlation . . .).

Presented in Figure A and B and Table C.

6) It is not clear how LE and H are computed, what about validation of maps function of vegetation types?

It was described in section 2.1.

7) We observe analysis for different dates (May 2003, 2008, 2009), what about ground validation and changes of land use during this long period?

Land use has not changed as it is permanent wetland vegetation. The ground validation is presented in Table C in section 2.2.1.

8) Section 3. There is an analysis of relationship between backscattering and biomass and moisture, what about radar configurations (polarisations, incidence angles, frequency), are all data with the same incidence angle?

All data presented in Table D.

9) Authors propose a mapping of soil moisture, what about roughness and vegetation effects?

It was considered that the roughness of vegetation does not change within the class of vegetation. That is why the classification was done and the correlation has been done within each class of vegetation. Written in the text.

10) There is no validation of proposed algorithms for radar signal inversion?

The methodology of inversion of the algorithms has not been presented in this paper as it wasn't the intention. The inversion procedure was presented in the paper "Inferring the effect of plant and soil variables on C- and L-band SAR backscatter over agricultural fields, based on model analysis (Dabrowska-Zielinska et al., 2006).