

Contribution to Croplands Research Group activities

- Contributed to 2019 MAGGnet metadata by providing information on eight experimental sites

MAGGnet_Site Information_South Korea.xlsx - Microsoft Excel



Experimental ID	Treatment description	Tillage type	Fertilizer treatment as variable?	Nitrogen rate (kg N ha ⁻¹ yr ⁻¹)	Synthetic N fertilizer type	Manure/Amendment Type	Crop Rotation	Cover crop
KOR01	Clay loam - -30kPa (water)	Conventional_Till	No	190	Synthetic_Normal	None	VegetableProduction_TraditionalGrainCrop	None
KOR01	Clay loam - -50kPa (water)	Conventional_Till	No	190	Synthetic_Normal	None	VegetableProduction_TraditionalGrainCrop	None
KOR01	Sandy loam - -30kPa (water)	Conventional_Till	No	190	Synthetic_Normal	None	VegetableProduction_TraditionalGrainCrop	None
KOR01	Sandy loam - -50kPa (water)	Conventional_Till	No	190	Synthetic_Normal	None	VegetableProduction_TraditionalGrainCrop	None
KOR02	plastic film mulching - chemical	Conventional_Till	No	186	Synthetic_Normal	None	VegetableProduction_TraditionalGrainCrop	None
KOR02	plastic film mulching - barley	Conventional_Till	No	0	None	PlantBased_Compost	VegetableProduction_TraditionalGrainCrop	Rye
KOR02	plastic film mulching - hairy vetch	Conventional_Till	No	0	None	PlantBased_Compost	VegetableProduction_TraditionalGrainCrop	Rye_Vetch
KOR02	no-mulching - chemical fertilization	Conventional_Till	No	186	Synthetic_Normal	None	VegetableProduction_TraditionalGrainCrop	None
KOR02	no-mulching - barley	Conventional_Till	No	0	None	PlantBased_Compost	VegetableProduction_TraditionalGrainCrop	Rye
KOR02	no-mulching - hairy vetch	Conventional_Till	No	0	None	PlantBased_Compost	VegetableProduction_TraditionalGrainCrop	Rye_Vetch
KOR03	plastic film mulching - barley+hairy	Conventional_Till	Yes	0	None	PlantBased_Compost	VegetableProduction_TraditionalGrainCrop	Rye_Vetch
KOR03	no-mulching - barley+hairy vetch	Conventional_Till	Yes	0	None	PlantBased_Compost	VegetableProduction_TraditionalGrainCrop	Rye_Vetch
KOR04	Red pepper (warm) - Garlic (cold)	Conventional_Till	Yes	440	Synthetic_Normal	None	VegetableProduction_Continuous	None
KOR05	Conventional tillage - Chemical	Conventional_Till	No	30	Synthetic_Normal	None	VegetableProduction_TraditionalGrainCrop	None
KOR05	Conventional tillage - Liquid pig	Conventional_Till	No	30	Synthetic_Normal	Swine_Manure	VegetableProduction_TraditionalGrainCrop	None
KOR05	Conventional tillage - Hairy vetch	Conventional_Till	No	30	Synthetic_Normal	PlantBased_Compost	VegetableProduction_TraditionalGrainCrop	Rye_Vetch
KOR05	Conventional tillage - Non-fertilizer	Conventional_Till	No	0	None	None	VegetableProduction_TraditionalGrainCrop	None
KOR05	No-tillage - Chemical fertilizer	No_Till	No	30	Synthetic_Normal	None	VegetableProduction_TraditionalGrainCrop	None
KOR05	No-tillage - Liquid pig manure	No_Till	No	30	Synthetic_Normal	Swine_Manure	VegetableProduction_TraditionalGrainCrop	None
KOR05	No-tillage - Hairy vetch	No_Till	No	30	Synthetic_Normal	PlantBased_Compost	VegetableProduction_TraditionalGrainCrop	Rye_Vetch
KOR05	No-tillage - Non-fertilizer	No_Till	No	0	None	None	VegetableProduction_TraditionalGrainCrop	None
KOR06	Spring maize - Fallow	Conventional_Till	No	186	Synthetic_Normal	None	VegetableProduction_TraditionalGrainCrop	None
KOR07	Red pepper (warm) - Garlic (cold)	Conventional_Till	Yes	440	Synthetic_Normal	None	VegetableProduction_Continuous	None
KOR08	Spring sweet potato - Fallow	Conventional_Till	Yes	120	Synthetic_Normal	Swine_Manure	VegetableProduction_TraditionalGrainCrop	None
KOR08	Spring sweet potato - Fallow	Conventional_Till	Yes	120	Synthetic_Normal	Cattle_Manure	VegetableProduction_TraditionalGrainCrop	None
KOR08	Spring sweet potato - Fallow	Conventional_Till	Yes	120	Synthetic_Normal	Chicken_Manure	VegetableProduction_TraditionalGrainCrop	None

Opportunities to participate in CRG activities

- Biochar utilization symposium

GPRN : 11-1390000-004649-01

Application of Biochar in Agricultural Practices for International Symposium 2019

Rural Development Administration
National Institute of Agricultural Sciences

International Symposium 2019 for Application of Biochar in Agricultural Practices

- September, 26, 2019
- Seminar Room, Dept. of Agro-food Resources in NAS
- Host: National Institute of Agricultural Sciences, RDA

Program

Time	Topics	Speakers
09:30-10:00	30 min. Registration	
10:00-10:05	5 min. Opening Address and Introducing Important Guests	Eun Suk Jang Director of Climate Change and Agro-Ecology Division, NAS
10:05-10:15	10 min. Congratulatory Address	Director General of NAS
10:15-10:20	5 min. Photo time	
Section 1. Biochar Application for Agriculture; Eun Suk Jang, Modulator		
10:20-11:00	40 min. Biochar Utilization and Impact on Crop Production, Soil Health, and the Environment in Agricultural Sector	Dr. Changyoon Jeong , Red River Research Station LSU AgCenter
11:00-11:40	40 min. SMART Biochar Technology - A Shifting Paradigm towards an Advanced Materials	Prof. Yong Sik Ok , Korea University
11:40-12:20	40 min. Evaluation of Agricultural Environment Impacts and Carbon Sequestration with Application of Biochar Pellet during Rice Cultivation	Dr. Jong Du Shin , NAS
12:20-13:20	60 min. Luncheon	
Section 2. Application of Biochar for Greenhouse Gas Emissions; Young Sik Ok, Modulator		
13:20-14:00	40 min. Greenhouse Gas Reduction with Biochar Application during Rice Cultivation	Prof. Ga Young Yoo , Kyung Hee University
14:00-14:40	40 min. Effect of Biochar and Inhibitors on Greenhouse Gas Emissions at Rice Field in China	Dr. Tieu He Chinese Academy of Science
14:40-15:00	20 min. Coffee break	
Section 3. Biochar Application in Animal Wastes; Hyoon Uk Kim, Modulator		
15:00-15:40	40 min. Estimation of Greenhouse Gas Reduction during Composting Animal Wastes with Incorporation of Biochar	Prof. B. Ravindran , Kyong Gi University
15:40-16:20	40 min. Evaluation of Odors from the Blended Biochar Pellet Mixed with Pig Manure Compost	Prof. Hyun Ook Kim , University of Seoul
16:20-17:00	40 min. Elimination Technology of Bad Odor from a Slurry Pigsty with Biochar Application	Prof. Sang Ryong Lee , Dong Guk University
17:00-17:30	30 min. Comprehensive Discussions (Additional Questions and Answers)	Jong Chul Yun , Director of Agricultural Environment Department, NAS
17:30	Close	



Opportunities, future actions and funding

- field, farm, region, national project
 - Development of CH₄ and N₂O emission factor (‘16-‘19)
 - Assessment of carbon LCI DB (‘17-‘19)
 - Quality control methodology for GHGs emission (‘17-‘19)
 - CH₄ flux observation using Eddy covariance (‘17-‘19)
 - Reduction of CH₄ and N₂O through nutrient management (‘17-‘20)
 - Carbon sequestration technology using biochar (‘18-‘20)
 - GHG inventory prepares AFOLU (‘18-‘20)
 - Automatic measurement technology for N₂O (‘18-‘20)

Opportunities, future actions and funding

- field, farm, region, national project
 - Changes in GHG emission due to land use conversion (`18-`20)
 - Biochar pellet application technology (`18-`20)
 - Minimum tillage reduces CH₄ emissions (`19)
 - Development of GHG reduction methodology (`19)
- Future project
 - New agricultural climate change response project and implementation strategies are planned to be implemented from 2020