

## **D-D1-19**

### **Selection of maximum biomass yielding cropping system and crop in drained paddy field**

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In recent, bio-energy cropping is booming for replacing fuel energy. However, there is few useful information about biomass related cropping system and crop selection experiment. We evaluated two cropping systems: 1) single cropping and double cropping systems and planted crops were 1) two rice cultivars, 2) three barnyard grass cultivars, 3) three corn cultivars, 4) soybean, 5) sesbarnia, and 6) Job's tears. Barley was cultivated in double cropping systems during the winter and spring season. In the results, single cropping system was better than double cropping system in view of total biomass production in all tested crops in summer and autumn. However, if barley biomass counted in double cropping system, there was not significant different biomass and validity between both cropping system. Cropping system related values should be considered in view of soil fertility and sustainability furthermore. In the crops, corn was recorded the highest biomass productivity of all the tested crops, however this also should be considered soil fertility and sustainability furthermore. In final, corn is the best crop for the biomass productivity of the tested crops in short experimental duration and it needed furthermore research in view of biomass productivity in long term experiment under fertilization level/timing.

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## **D-D1-20**

### **Selection and evaluation of maximum biomass yielding cropping system and crop in upland**

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In recent, bio-energy cropping is booming for replacing fuel energy. However, there is few useful information about cropping systems and crop. We evaluated two cropping systems: 1) single cropping and double cropping systems and planted 6 crops which were 1) three corn cultivars, 2) soybean, 3) sudan grass, 4) sorghum, barley, wheat, and ryegrass were cultivated in double cropping systems during the winter and spring season. In the results, single cropping system was better than double cropping system in view of total biomass production in all tested crops in summer and autumn. However, if winter crop biomass counted in double cropping system, it is uncertain which is better because of different biomass and validity between single and double cropping system. Cropping system related values should be considered soil fertility and sustainability furthermore. In the crops, corn was got the highest biomass productivity of all the tested crops, however we got great potentiality in sorghum by regrowth after mid-summer cutting. In final, corn is the best crop for the biomass productivity of the tested crops in short experimental duration and sorghum has great potentiality for biomass productivity which should be tested furthermore in view of total biomass productivity in several fertilization levels/timing and soil fertility.

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