

## 飯館村における脱炭素・循環型農業の研究 3-

### 除染後農地における籾殻燻炭・化学肥料・堆肥の植物成長への影響

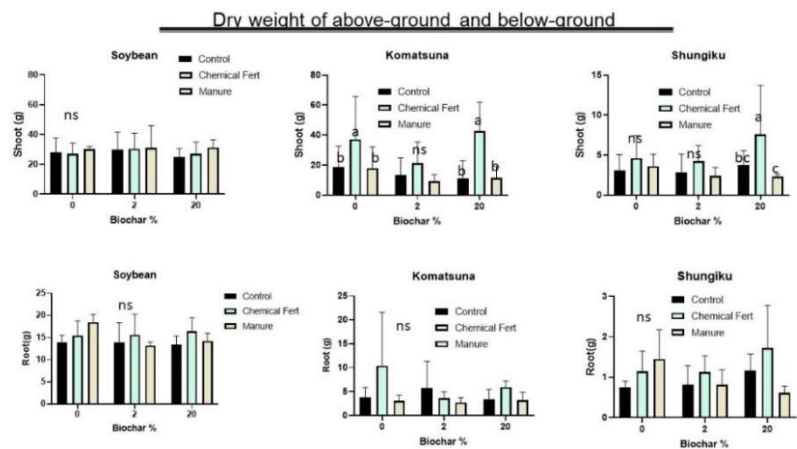
Sustainable Agriculture and Carbon Sequestration in Iitate 3:  
Effects of biochar, chemical fertilizer, and manure application on plant growth  
in a decontaminated upland field in Iitate

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Keyword : Biochar application, Covering soil, Plant growth.

Application of biochar may increase soil fertility and promote sustainable agriculture in Iitate where agricultural soil was decontaminated. This study aims to investigate if locally produced rice husk biochar and manure could enhance covering soil fertility. In all, 27 test plots were set up to examine three different application rates of biochar (0, 2, and 20% v/v). Additionally, three different combinations of nutrient supply were added (control, chemical fertilizer, and cow dung manure) with three replications. Soybean, Komatsuna, and Shungiku seedlings were cultivated while their growth parameters were examined. The results indicated that the addition of various rates of biochar did not significantly influence plant growth. Applying a high amount of biochar (20%) into the soil did not harm plant growth, even though the selected plant showed similar growth with different nutrient-supplying treatments.



Alphabets shows significant difference between biochar % and \* signifies significant different between treatments (P<0.05\*, P<0.01\*\*, P<0.001\*\*\*) RStudio/2023.09.1+494

The effect of different rates of biochar application on plant biomass