



ອົງການ ຊ່ວຍເຫຼືອຊຶ່ງກັນແລະກັນ SERVICE FRATERNEL D'ENTRAIDE

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Upland rice test in Pindong 2015 June - October

Objective

The objective of this trial was to see whether cowpea and/or lablab bean could be potential beneficial plants in an intercrop system with upland rice.

Methodology



We planted 4 different plots:

- Rice only in 30x30cm spacing (control)
- Rice + cowpea; two rows rice with 30x30cm spacing plus 1 row cowpea 15cm spacing
- Rice + cowpea+lablab; spacing pattern as above
- Rice + cowpea; spacing pattern as above

Seeds used: rice plants "Khao Laboun" LG-12803 from NAFRI in Luang Prabang, a 120-130day variety; the cowpeas used are a local climbing variety; lablab was also a local variety

Diary of trail

13 June 2015



Planting of seeds into prepared upland rice field (cowdung was added during the preparation process over the entire field = all four plots)



The villagers from the "model families" who have been working with SFE for a long time planted the seeds

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22 June 2015



Development after 10 days: cowpea germinated quickly

14 July 2015



Left: the cowpeas grow nicely

Below left: After 1 month: first cut of cowpea leaves back to about 15-20cm

Below right: lablab beans grow very slowly; the conditions do not seem to be optimal; probably too wet – this plot is not further investigated in this study





Upland rice test in Pindong 2015 June - October

11 August 2015



Left: strong regrowth of cowpea plants

Below: second cut of cowpea leaves





Upland rice test in Pindong 2015 June - October

15 September 2015



Control visit of test field:

At this stage the rice plants overtook the cowpea plants largely. Only very minor cut back had to be done

9 October 2015



Harvest (after almost 4 months)

In order to measure the result of the different plots, we took a 2x2m area in the respective plot.

The control (rice only) plot and the rice+cowpea plot was measured

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Harvest continued:

Threshing the rice plants by stepping on them



Upper left: harvest of the rice control field 1.05kg → 2,625t/ha

Upper right: harvest of the rice +cowpea field 1.38kg → 3,45t/ha

This results in an increase of 32% with the cowpea intercrop. Although the rice+cowpea intercrop plot had fewer rice plants in number, it still produced a higher rice yield.

Both yields are actually higher than the average yield in the area which dropped to as low as below 2t/ha. This can be explained by the preparation with cow dung of field prior to planting.

Below: This picture nicely shows the difference in amount between the test plot (left) and the intercrop (right). The farmers were quite surprised to see such a difference





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Discussion

The cowpea intercrop with upland rice seems to be very promising. We would not have expected such a difference bearing in mind that the number of rice plants on the intercrop plot was smaller than the one on the control plot. Nevertheless, the result needs to be interpreted cautiously because the research area was very small and the harvest plot (2x2m) was also very small.

More research would need to be done on the following points:

- How does the result change if the intercrop pattern were a 1 row rice plus 1 row bean pattern
- How would this system work with a creeping (and not climbing) cowpea variety? Would the cutback of the leaves be still necessary?
- How changes labour requirement compared to usual upland rice farming, especially with regards to weeding? Does mulching with cowpea leaves significantly reduce weeding efforts?
 - o Answer so far: not significantly. The farmers still had to do some weeding, particularly during the weeks after planting (the cowpea plants were still too small)
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