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## Congress Proceedings

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## Fertilizing cover of corn and Xaraés grass under no-tillage and conventional tillage with nitrogen levels in an agrosilvopastoral system in Acre State, western amazon

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**Introduction** In crop-livestock-forest systems in the Amazon region, nitrogen fertilization is highly variable. It varies according to soil type, cropping system and the use of nitrogen demanding species such as corn and *Urochloa brizantha* (xaraés grass). This study was carried out to evaluate the agronomic efficiency of corn and 'Xaraés' intercropping, established in no-tillage and conventional tillage, in an agrosilvopastoral system, with different levels of nitrogen fertilization.

### Material and Methods

The field experiment was installed in a farmer's area (9°51'26"S, 67°25'42"W, 181 m asl), in Acre state-Brazil. The soil is an Ultisol. The experiment was conducted in a corn crop area with the forest species "mulateiro" (*Calycophyllum spruceanum* Benth). The experimental design was completely randomized blocks, in a split-plot arrangement with two soil management systems (no-tillage and conventional tillage). Five levels of nitrogen coverage fertilization were tested (0, 50, 100, 150, and 200 kg ha<sup>-1</sup> N). The corn and forage dried matter productivity were evaluated 50, 90 and 145 days after the corn harvesting.

### Results and Conclusions

Fig. 1. Corn yields in no-tillage (NT) and conventional tillage (CT) with different levels of nitrogen fertilization.

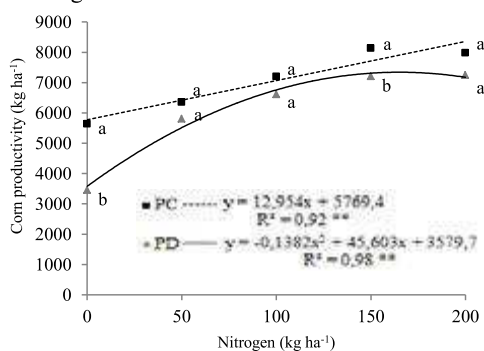
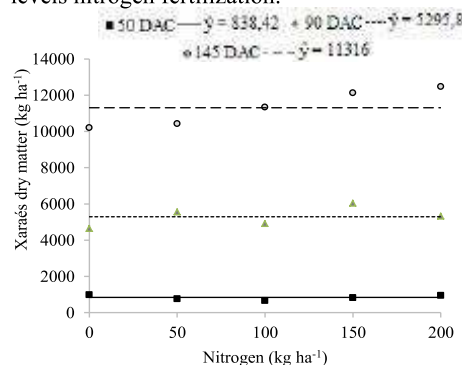


Fig. 2. Dry matter Xaraés 50, 90 and 145 days after corn harvesting (DAH) in different levels nitrogen fertilization.



Corn productivity linearly increased from 0 to 200 kg ha<sup>-1</sup> N fertilization, in the conventional tillage area. In the no-tillage area N coverage fertilization must have been done to obtain satisfactory yields. Nitrogen fertilization does not influence Xaraés grass dry matter production when intercropped with corn in agrosilvopastoral system.

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## Impact of integration on nutrient and water-use efficiency

**Tadário Kamel de Oliveira**

Fertilizing cover of corn and brachiaria under no-tillage and conventional tillage with nitrogen levels in an agrosilvopastoral system in Acre state, Western Amazon

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