In order to evaluate the establishment of five cover crops and their potential to increase soil fertility through nutrient uptake, an experiment was installed at the Research Station of Choclino, San Martin, Peru. Five cover crops were planted: Arachis pintoi Krapov. & W.C. Greg, Calopogonium mucunoides (L.), Callisia repens (Jacq.) L., Canavalia ensiformis (L.) and Centrosema macrocarpum Benth. The percentage of cover of Canavalia, was significantly higher than the others, reaching total cover at 90 days after planting. The highest above and below ground dry biomass was for Centrosema (9.61 t ha$^{-1}$ y 2.76 t ha$^{-1}$, respectively). The rates of Nitrogen (311 kg ha$^{-1}$), Phosphorous (24.97 kg ha$^{-1}$) and Potassium (155.61 kg ha$^{-1}$) extracted by Centrosema were significatively higher than the other cover crops. Therefore, the most appropriate cover crop under the study conditions was Canavalia allowing it to be used as a management tool to reduce spontaneous vegetation growth and to protect the soil from erosion by covering it in less time. To improve soil fertility through nutrient cycling the use of Centrosema is recommended due to its highest nutrient extraction capacity and dry biomass production.

**Keywords**
Percentage of cover, total biomass, dry matter, nutrients.