

was counter-clockwise the last two years to minimize border effect.

Corn.—Yields of corn in the rotation and continuous-crop experiment are given in Table 1. In the second year there was as much as seven bushels increase in the yield of corn grown in rotation, but a decrease of one to nine bushels in the yield of corn grown continuously. The yield of corn in the third year was 22 to 34 bushels higher than in the second year, largely because of more favorable weather and the use of a higher yielding hybrid. Native cover made little growth, but where good crops of lupine and crotalaria were turned under corn yields were nine to 32 bushels higher. This was partly due to extra fertilizer used on the cover crops.

In the fourth year there was a five- to thirteen-bushel increase over the third year in the yield of corn in all instances except where corn followed a poor growth of native cover. Corn yields in the fifth year were eight to 29 bushels lower than in the third and fourth years, largely because of a less favorable season. The residual effect of the good growth of green manure crops in the first four years of the experiment produced an eight- to 19-bushel increase over corn following native cover.

After the first year of the experiment the yield of corn was higher in the rotation plots than in the continuous corn plots following a good green manure crop. Yields were about the same in the two- and three-year rotations. In the fourth year the cover crops were not fertilized, yet the rotation corn yielded 24 to 35 bushels per acre more than continuous corn following native cover, Fig. 2. The stand of corn was not reduced, but velvet beans interplanted with corn reduced the corn yield three to nine bushels. Velvet beans yielded 304 to 1,472 pounds of dry shelled beans per acre (Table 3); consequently the total yield of both crops was on the average much larger.

Peanuts.—Yields of peanuts in the rotation and continuous-crop experiment are shown in Table 2. The yield of peanuts in all plots decreased in the second and third years, but the largest decrease was in the continuous peanut plots. The low yield of peanuts in 1949 was partly caused by the wet weather in August (Table 25). During the next two years the yields increased.

For five years the yield of peanuts was 100 to 200 pounds higher on the rotation than on the continuous peanut plots. Yields were about the same in the two- and three-year rotations.