

Summary

To reduce losses of nutrients after slurry application it is necessary that slurry has the possibility to infiltrate very quickly into the soil. This requires for example absorbable soil, flowable slurry and the suitable application technique.

To enhance the flowability of cattle slurry it's recommended to dilute it with water.

Techniques with soil near application are ideal. The lowest gaseous nitrogen losses were aimed with slurry injection. On the other hand is to consider that injection means an intervention into the sward and the draft requirement is increased.

Background

Green house gas emissions can be reduced by using modern application techniques of slurry. Soil near application is to favorize.

For an efficient utilization of the slurry containing nutrients are nutrient losses to minimize. Slurry injection usually causes lowest gaseous N-losses

Methods

Swivel distributor

With the swivel distributor slurry get distributed by swinging back and forth of the slurry jet. The distributor produces big drops and a very good wide distribution. Because of the big drops slurry infiltrates quickly into the soil. Moreover is the slurry covered and thereby emitting surface lower.



Drag hose

The advantage of this technique is the very exactly distribution and the application is soil near. Problems may be the additional weight of the distributor and the high investment costs. For the application on permanent grassland only slurry which is diluted with water should be used.

Injection

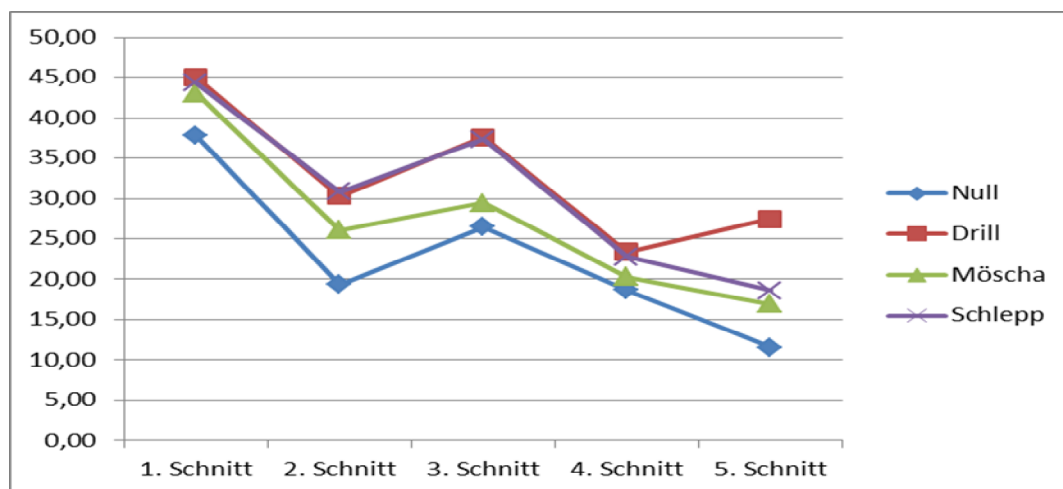
Slurry injection means the more or less deep application of slurry into the soil. Injection leads to very low odor- and ammonia-emissions and low pollution of the forage. On the other hand the sward may be influenced negatively. Also the area performance is lower and the application costs are usually higher.



The slurry application techniques have to be tested in an uniform experiment at 4 pilot farms in region Oberschwaben. We will take the same slurry tank, the same application methods and the same amount of slurry. The slurry itself will come from different pilot farms and so the botanical composition of grasslands will vary.

Results

The figure below shows exemplarily one result from the experiment. At the pilotfarm LAZBW shows the soil near application in 2011 the highest yield of dry matter with small advantages for the slurry injection.



Recommendation

Slurry application requires liquid slurry. To enhance the flowability of cattle slurry it's recommended to dilute it with water.

Soil near application is to favorize. Under aspects of gaseous emissions slurry Injection ist he ideal technique. Problems may cause the intervention into the sward and the hig draft requirement. A compromise can be a very less deep injection or using drag shoes.