

Tørstofudbytte, kvælstofoptagelse og -udvaskning ved anvendelse af gylle iblandet nitrifikationshæmmere

Yield of dry matter, nitrogen uptake and leaching from slurry mixed with nitrification inhibitors

V. KJELLERUP

Resumé

Virkning af husdyrgylle med og uden nitrifikationshæmmere er sammenlignet i vårbyg, roer, kartofler, vintersæd, rug og hvede. Gyllen er til forårssæede afgrøder udbragt på følgende tidspunkt: September/oktober, december og marts/april. Til vintersæd er gyllen udbragt og nedpløjet før såning, samt overfladeudbragt i december, februar og marts/april. Desuden er sammenlignet virkning af nitrifikationshæmmerne: Didin, Dwell og N-Serve 240 E. Forsøgene lå som etårige markforsøg i syv år ved Askov (JB 5) og Lundgård (JB 1). Samtidig er gennemført et fast-

Nøgleord: Nitrifikationshæmmere, kvæg- og svinegylle, udbringningstid, tørstofudbytte, N-optagelse, N-nedvaskning, Didin-nedvaskning, nitrosaminer, mark- og lysimeterforsøg.

Summary

The effect of cattle and pig slurry with and without nitrification inhibitors was investigated after application to: spring barley, beet, potatoes, winter wheat and winter rye. The slurry was applied to spring sown crops in: September, December and April, and was immediately plowed in after spreading. With winter crops the slurry was applied in September, December, February and April. In September the slurry was plowed in just before sowing, however at other times it was spread on the surface.

The effects of the nitrification inhibitors: Didin, Dwell and N-Serve 240 E were also investi-

Key words: Nitrification inhibitors, cattle and pig slurry, time of application, dry matter, N-uptake, N-leaching, Didin-leaching, nitrosamines, field- and lysimeter experiments.

Beretningen kan fås hos Informationstjenesten, Skovbrynet 18, 2800 Lyngby, tlf. 45 93 09 99.

Tidsskr. Planteavl 95 (1991), 204.

liggende lysimeterforsøg ved Askov med jordtyperne JB 1 og JB 7.

Generelt er virkningen af gylle iblandet nitrifikationshæmmere til forårssæede afgrøder stærkt afhængig af temperaturforholdene efter gylleudbringning, men gylle + nitrifikationshæmmere udbragt i efterårsmånederne har i ingen tilfælde givet større tørstofudbytte end forårsudbragt gylle uden hæmmere. Derimod er der til vintersæd på sandjord opnået lige så store udbytter af gylle + nitrifikationshæmmere ved september/oktober-udbringning som ved forårsudbragt gylle.

gated.

The experiments were carried out both in one-year field experiments and in lysimeter.

Generally, the effect of slurry mixed with nitrification inhibitors and applied to spring sown crops was strongly dependent on climatic conditions especially the temperature after application. The best effect of nitrification inhibitors to spring sown crops is achieved with growing degree days between 300 and 700.

On coarse sand soil (JB 1) slurry + Didin applied and plowed in before sowing gave nearly same additional yield in winter rye as slurry without Didin applied in spring.