

Benefits of Urine Utilization

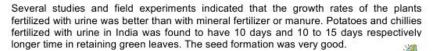


Manufaa ya kutumia makojo kwa ukulima





Benefits of Urine Utilization





The use of human urine is of particular interest in the field of organic farming where fast acting fertilizers are in demand. Separated urine is comparable to liquid manure. Urine used directly or after storage is of high quality and low cost, alternative to N-rich mineral fertilizer in plant production.

In a study on the acceptability of urine grown crops, initially about 73.1 per cent of the community felt that urine is a body waste and may have pathogens and therefore should be disposed off in the conventional way. Only 7.69 per cent accepted to grow vegetables and other crops.

Once the experiment was completed the community members were taken round the farm to see for themselves the quality of crops obtained. All the respondents were surprised to see the yields obtained from urine which was found much better and fresh in appearance and they believed that urine is a good alternative for fertilizer.



About 80 per cent of the respondents showed no more inhibitions to eat urine grown crops. About 95.2 per cent of the respondents showed willingness to built urine diversion toilet on their premises. The cost of constructing a simple urinal with a storage tank was about US \$130 (in Nigeria). Depending on the choice of crops, the returns are substantial and urine harvesting can be a viable entrepreneurial venture.

The sanitation technology of urine diversion is important in many ways:



It improves dry sanitation facilities by:

- reducing odours
- facilitating maintenance of the system





It contributes to improved health:

- easier and more hygienic handling of the
- reduced risk of pathogen transport to groundwater









It facilitates nutrient cycling and creates possibilities to increase food security:

- urine contains the majority of nutrients found in excreta
- urine is an excellent fertilizer, suitable for all crops needing quick-acting nitrogen
- urine has an extremely low content of micropollutants such as, e.g., heavy metals
- urine leaving the bladder has a high microbial quality (i.e. low content of pathogens)



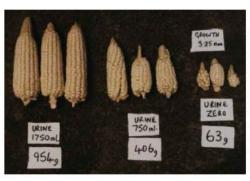
Urine diversion systems contribute less to environmental contamination than conventional sanitation systems:

- reduced risk of groundwater pollution for dry urine diversion systems
- reduced risk of surface water pollution for water-flushed urine diversion systems



Manufaa ya kutumia makojo kwa ukulima

Uchunguzi wingi ulionyesha ya kwamba mimea iliyotiwa makojo ilimea haraka kuliko ile iliyotiwa mbolea. Nchini India, mimea ya viazi na pili pili iliyotiwa makojo ilihifadhi majani yake kwa siku kumi zaidi.



Utumizi wa makojo binadamu kwa ukulima wa kikaboni unavutia kwa sababu kuna mahitaji ya mbolea yenye matokeo haraka. kulinganisha Unaweza makojo na mbolea kimajimaji. Makojo yanayotumiwa mara au baada ya kuhifadhi ni chaguo bora chenye mtindo wa juu na bei chini kuliko mbolea ya madini.

Baada ya utafiti kutambua kama watu wa jamii fulani wangekubali makojo kama mbolea, wengi walihisi ya kwamba makojo ni taka ya mwili na yanafaa kutupwa kama kawaida. Ni asilimia saba tu ya watu waliokubali kuyatumia kwa kulima mboga na mazao mengine.

Baada ya majaribio, wenyeji wa jamii walionyeshwa mtindo wa mazao na walishangaa kuona mavuno yalioyoonekana bora kuliko mengine na waliamini ufanisi wa makojo.



Baadaye, wengi wao walikubali kula mazao yaliyotiwa makojo kwa kuyalima na asilimia tisini na tano walisema wangependa kujenga choo kinachopeleka makojo shambani. Kwenye nchi ya Nigeria, inachukua dola mia moja thelathini kujenga chombo cha kuhifadhi makojo. Kulingana na aina ya mimea, matokeo ya utumizi wa makojo yanaweza kuleta faida nyingi kibiashara.



Teknolojia hii ya kupeleka makojo shambani ni muhumi kwa sababu:





Inaboresha usafi wa mazingira kwa:

- Kupunguza harufu mbaya Kudumisha mfumo



Inaboresha hali ya afya kwa kuwezesha kinyesi yashughulikiwe vizuri na kupunguza uchafuzi wa maji ya kunywa







Inaweza kuongeza usalama wa chakula kwa sababu makojo:

- yana virutubisho vingi, yaani, kemikali zinazonufaisha mimea
- ni aina nzuri ya mbolea kwa mazao yanayohitaji nitrojeni haraka
- hayana uchafu ndogo ndogo, kama vile, chuma
- hayana bakteria nyingi





Inazuia uchafuzi wa mazingira kuliko teknoljia za kawaida kwa kupunguza uchafuzi wa maji yaliyo ardhini na yale kijuujuu kama vile kwa mito