**Section 391.APPENDIX B Fertilizer Requirements for Illinois Crops**

The Agency in reviewing a permit application for a sludge project will consider any recognized source of fertility recommendations for Illinois crops, and soils. However, Table IV was prepared for the convenience of persons planning a sludge project who do not wish to consult other information sources with regard to fertilizer requirements for Illinois crops. Table IV is general in nature and may not reflect an optimum recommendation for all areas or soil types of this state, rather the recommendation reflects the maximum rate of application consistent with current research. With respect to nutrients, the available nitrogen rate will dominate as the maximum permissible application rate. Note that with most sludges and crops if the available nitrogen crop demand is met by applying sludge as the only fertilizer, the phosphorus (P) applied with often exceed the plant requirements. Therefore, in order to make the best use of sludge resources, the P rate should be followed. However, it is environmentally acceptable to apply at the nitrogen rate if other factors so dictate. In order to obtain more accurate recommendations for fertilizer requirements, soil testing should be done.

TABLE IV

Fertilizer Requirements for Illinois Crops

(pounds of nutrient)

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Crop |  | Available N |  | P |  | P2O5 |  | K |  | K20 |
|  |  |  |  |  |  |  |  |  |  |  |
| Corn for grain |  | 1.3/bu. |  | .24/bu. |  | .55/bu. |  | 0.23/bu. |  | .28/bu. |
| Corn silage |  | 7.5/T |  | 1.4/T |  | 3.1/T |  | 7.9/T |  | 9.4/T |
| Wheat 1 |  | 2.3/bu. |  | 0.3/bu. |  | 0.68/bu. |  | 1.7/bu. |  | 2.0/bu. |
| Oats 1 |  | 1.1/bu. |  | 0.17/bu. |  | 0.40/bu. |  | 1.2/bu. |  | 1.5/bu. |
| Barley 1 |  | 1.5/bu. |  | 0.24/bu. |  | 0.55/bu. |  | 0.83/bu. |  | 1.0/bu. |
| Rye 1 |  | 2.2/bu. |  | 0.15/bu. |  | 0.69/bu. |  | 0.75/bu. |  | 1.8/bu. |
| Sorghum for  grain |  | 2.0/100 lbs. |  | 0.33/100 lbs. |  | 0.75/100 lbs. |  | 0.31/100 lbs. |  | 0.38/100 |
| Grain sorghum  for silage |  | 7.5/T |  | 1.4/T |  | 3.1/T |  | 7.9/T |  | 9.4/T |
| Tall fescue 3 |  | 39/T |  | 8.1/T |  | 19/T |  | 44/T |  | 53/T |
| Bromegrass 3 |  | 33/T |  | 5.7/T |  | 13/T |  | 42/T |  | 51/T |
| Sorghum-Sudan 3 |  | 40/T |  | 6.7/T |  | 15/G |  | 49/T |  | 59/T |
| Orchard Grass 3 |  | 50/T |  | 7.2/T |  | 17/T |  | 52/T |  | 63/T |
| Timothy 3 |  | 38/T |  | 6.0/T |  | 14/T |  | 52/T |  | 63/T |
| Reed Canary  Grass 3 |  | 55/T |  | 5.4/T |  | 13/T |  | 42/T |  | 50/T |
| Alfalfa 3 |  | 2 |  | 4.4/T |  | 10/T |  | 50/T |  | 60/T |
| Clovers 3 |  | 2 |  | 6.5/T |  | 15/T |  | 50/T |  | 60/T |
| Soybeans |  | 2 |  | 0.47/bu. |  | 1.1/bu. |  | 2.0/bu. |  | 2.4/bu. |

1 If straw is harvested.

2 Legumes can obtain most of their nitrogen requirements from the air and are normally not fertilized with nitrogen. However, if included in a crop rotation with nitrogen using crops they will use the available nitrogen in the soil and not fix nitrogen from the air. Therefore, it can be assumed that they will remove as much nitrogen as corn for grain would remove in the same rotation.

3 Forage crops may become toxic to livestock if high concentrations of molybdenum or selenium are present in the sludge. Refer to Section 391.420(g) for guidance.

If specific crop yield information is unavailable, consult the Illinois Agriculture Statistics Annual Summary for the current year or utilize the values shown in Appendix C. This publication is available from the Illinois Cooperative Crop Reporting Service, Post Office Box 429, Springfield, Illinois 62705. If a specific crop which you want to use in not listed in this reference contact the University of Illinois Cooperative Extension Service in your county for average yields of that crop.