

What's the effect of potato tubers left in the field for the 2020 crop?

With the large amount of potato tubers left in the ground, there have been many asking how this will influence the 2020 crop. Because potatoes are about 80% water, they will freeze in the ground and typically stay frozen until spring, storing nutrients and water until the next growing season. Potato plants take in a large amount of nutrients, when compared to other row crops. To estimate the amount of nutrients that could be left in the soil for 2020, take into account the expected yield (Table 1). This data is based on Russet Burbank potato tubers, but it gives a good idea of what could be available for other varieties. For more information on potato nutrition see <https://www.ag.ndsu.edu/publications/crops/fertilizing-potato-in-north-dakota/sf715.pdf>

Table 1. Nutrients contained in potato vines and total tuber yield. (From Rosen and Bierman, 2017)

Nutrient	Vines	Total tuber yield, cwt/acre				
		200	300	400	500	600
Nitrogen (N)	90	86	128	171	214	252
Phosphorus (P)	11	12	17	23	28	35
Potassium (K)	75	96	144	192	240	288
Calcium (Ca)	43	3.0	4.4	5.9	7.4	8.9
Magnesium (Mg)	25	5.9	8.9	11.8	14.7	17.6
Sulfur (S)	9	8.8	13.2	17.6	22.0	26.4
Zinc (Zn)	0.11	0.07	0.11	0.14	0.18	0.21
Manganese (Mn)	0.17	0.03	0.04	0.06	0.07	0.08
Iron (Fe)	2.21	0.53	0.79	1.06	1.32	1.58
Copper (Cu)	0.03	0.04	0.06	0.08	0.10	0.12
Boron (B)	0.14	0.03	0.04	0.05	0.06	0.07