

Nutrient Levels—Chilkat Valley Soils with Recommendations for Fruits and Berry Production

The Chilkat Valley Orchard Project completed Soil Audit and Inventory Reports (soil tests) for 27 sites in 2021/2022. The uses and history of these range widely: from historic industrial uses, lawn/heavy sod, to active orchards producing fruit and berries. Below is a look at what we found. **For more information: info@cvorchardproject.org**

**Chilkat Valley
Orchard Project**
A USDA funded program of the
Chilkat Valley Historical Society

INVENTORY ITEM	Average all samples	Standard Deviation	Generalization on all samples	Recommendations* for Fruit & Berries
Total Exchange Capacity	12.6	4.5	Wide range, linked to silt, sand, clay fraction	Increases with increased clay and organic material additions
pH	pH 6.08	pH 0.41	Range: 4.9 – 6.6 Mode 5.8	Ideal Range pH 6.3 – pH 6.7
% Organic Matter	14.5%	15.9	1/3 below 7%	5% Minimum
Est. lb. Nitrogen Release/Acre	115 lb/ac.	12.6	Range: 77 - 130	Seasonally top-dressing and mulch the fungal duff to provide all required
Sulfur (ppm)	15.8	11.9	67% are low	25 – 50 ppm
Phosphorus (as Phosphate) ppm	42	34	65% are low	50 – 70 ppm
Calcium ppm	1590	587	Generally Sufficient	1250 – 1500ppm
Magnesium ppm	137	90	Often Low	Depends on soil type: 3.5X – 7X less than Calcium
Potassium ppm	73	31	Sufficient	100ppm
Boron ppm	.41	.36	75% are low	0.5 – 1.0 ppm
Manganese ppm	21.5	21.7	75% are low	40 – 50ppm
Copper ppm	9.1	17.7	39% are low	3 – 5 ppm
Zinc ppm	9.3	10.7	50% are low	5 – 10 ppm
Nitrates ppm	5.8	8.74		Seasonally top-dressing/mulch the fungal duff to provide all required
Ammonium ppm	2.6	2.1		
Aluminum ppm	1353	471	Not a nutrient	Not a concern
Iron ppm	331	93	Not a concern	Can be deficient, not here
Sodium ppm	25.8	22.6	Not a nutrient	Not a concern here. One sample quite high (113ppm)

Sources for "Recommendations":

Notes and recommended values below **are for orchard and berry cultivation** and based on the publications and personal communication with Alaskan agronomists, Bob Van Veldhuizen, Dr. Mingchu Zhang and Orchardist-Author Michael Phillips. **Recommended soil nutrient levels reflect the needs of fruit tree and berry plantings that are being cultivated organically and pushed for strong production.**

Also See: **Nutrient Notes for Fruits and Berries**-- look under Resources at cvorchardproject.org.