

What is the Relationship Between Soil Nitrogen and Himalayan Blackberry Growth?

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Introduction and background

The Himalayan Blackberries are a invasive non-native species that is found on the Northern West Coast of the United States and is rapidly spreading. We are trying to investigate what allows the Himalayan Blackberry to prosper and become so invasive. We want to find out if the nitrogen content in soil is a leading component of the invasiveness. This is important because the Himalayan Blackberries are one of the leading causes to what chokes out any native species.

Research methods

We planned to take samples of soil in two areas:

- Areas surrounded with Himalayan Blackberries
- Areas that are not surrounded by the Himalayan Blackberries

We will use the data from the areas tested and compare the levels of nitrogen together. We are trying to find any differences in the consumption of soil from both areas and to see if there are any significant effects. We used the Rapitest soil test kit by Luster Leaf.

Results

Figure 4: Measurements taken at FOP. Refer to Figure 5 for key.

| | Site 1 (oz. / 100 sq. ft.) | Site 2 (oz. / 100 sq. ft.) | Site 3 (oz. / 100 sq. ft.) |
|---|--------------------------------|--------------------------------|--------------------------------|
| Areas containing Himalayan Blackberries | N2 – N3 | N3 | N3 – N4 |
| Areas not containing Himalayan Blackberries | N2 | N1 | N2 |

| KEY | N1(Depleted) | N2(Deficient) | N3(Adequate) | N4(Extra) |
|-----------------|--------------|---------------|--------------|-----------|
| Shrub (foliage) | 22.0 – 22.5 | 14.0 – 14.5 | N/A | N/A |

Figure 5: Measurements of the Nitrogen in Rapitest Soil Test Kit by Luster Leaf

We found that nitrogen was much higher when samples were taken near the soil of the Himalayan Blackberries that without. The soil without ranged from N1 - N2 but with the blackberries it majority N3 - N4

There definitely is a correlation between the nitrogen and Himalayan Blackberries.

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Discussion

What we are trying inspect is what factor provokes the Himalayan Blackberry’s invasiveness. Whether this is what causes them to grow sporadically and choke up areas with native species. We are trying to come up with a new approach to fix the danger the Himalayan can do. This can help with focusing on other sources other than nitrogen or maybe go even deeper with nitrogen.

Study system



Figure 1: A map of FOP (Fairfield Osborne Preserve) including the sites we have tested in red



Figure 2: An image taken of the Himalayan Blackberry bush at FOP

Conclusions

Nitrogen is more profound nearer the Himalayan Blackberries. This reveals that the blackberries favor areas with nitrogen. This also shows that there can be another reason or source that allows the species to grow rapidly and widely.

References

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