

Qualitative review of plant extract HB-101^{®C}

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INTRODUCTION

Note: This presentation is not an endorsement or advertisement for the product reviewed herein. It is a qualitative product trial, in real world applications. Readers are welcome to use this paper as a guide to determine whether or not this product would be of use in endeavors.

Several years ago, I was visiting a large Japanese Supermarket in the Northwest suburbs of Chicago. In addition to the various groceries and dry goods from Japan and the United States, this store also has a large book store housed within the building. While I was looking over the various gardening and hardscaping books that dealt with the Japanese style of gardening, I also looked through the magazine section. There I found a number of gardening magazines and the subsequent garden themed ads.

I came across a number of fertilizer product ads, many of which I was familiar with. One product though, was new to me, and I investigated it further. I also had a friend who could translate for me, explain the product and its use, according to the advertisement. The product HB-101[®], is widely used in Japan, and the subsequent pages in other publications, seemed to indicate it was a popular, or at least a well marketed product. After doing the Google[®] and Bing[®] search ritual, I ordered a bottle of this product for myself (via Ebay[®]).

To be clear, this is not a fertilizer per se, but a plant extract, which can be used as a foliar agent, used alone, or added to liquid fertilizer regime. I have used it as a standalone product and additive to various horticultural production and maintenance programs. I will relay those findings to you now.

MATERIALS AND METHODS

Firstly, this product was applied in the following ways, first as a foliar treatment. Either using a small hole rain wand sprinkler, or with a trigger sprayer. Another method was with a typical watering can, which was tipped over the media in the various containers, and poured into them. Containers were watered until the level of water neared the lip of the container, and then allowed to run into and drain out of the container. Sizes of these containers range from Herkuplast[®] cell trays, 3½ in. deep to 5 in. deep. Various sizes of Anderson Die and Manufacturing[®] band pots and nursery containers were also used. Several very large containers were used as well, 25 gal and larger. I also have begun to trial some of the grow bags for smaller specimen trees and shrubs.

As far as container media are concerned, I am currently using several proprietary blended soilless media from Old Castle Lawn and Garden[™]. These will typically have a starter charge of fertilizer, a wetting agent, and in some cases a slow release product with a release time up to several months. The components are bark, pine and or hardwood, with either peat, rice hulls and/or a compost component included. For long term container growing situations, I will include a “dry” fertilizer into the media via incorporation. The product that I have been using for some now is Nitroform[®] 38-0-0, small pearls, at a rate of 1 and 1½ lbs yard³ of medium.

The manufacturer of HB-101, lists various dilution rates on the website, along with suggested application scenarios. Using these tables as a guide. In my trials, I came upon the following rates of HB-101 to incorporate into water. I use either 1.8 cc (mL) to 3.785 L, 2.5 cc to 7.57 L, or 3.75 cc to 9.46 L.

This depends upon the particular crop, time of the season, and the size of the plants. There may be at certain times of the season, an addition of typical water soluble fertilizer. I use several different types of the Jacks[®] fertilizers. I may also use spray grade ammonium

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sulfate, potassium nitrate, or Plant Marvel® fertilizer.

RESULTS AND DISCUSSIONS

Typically, foliar application and direct soil watering seem to be the most frequent methods used. When treating vegetables, tomatoes, eggplants, peppers, and various lettuce crops, there is a noticeable increase in the “vigor” of leaf growth. In the case of crops other than lettuce, secondary branching occurred, coupled with subsequent increase in flowering. This should result in more fruit bearing.

When treating herbaceous perennials while emerging in spring, the product was applied over the top of emerging leaves. While there was not an appreciable growth spurt. One observation was that during cold evenings, there was less damage to leaves than normally occurs.

In regards to tropical or temperennial plants, there were some different results. Plants observed for this trial were various aroids, philodendrons, monstera, *Alocasia*, *Colocasia*, also studied was tetragonia, begonias, bromeliads, and assorted annuals.

There is a correlation to temperature and growth with these plants. The warmer the better. Many of these are in my personal collection and are overwintered either in my basement, or in a minimally heated green house. Temperatures are between 50°F in the night hours, to upwards of the mid 80s during the day, in the greenhouse. The basement temperature is constant at 75°F during the day, and 65°F at night. In April and for part of May, they may be outdoors during the day and be returned indoors at night. Once the night time temperature stays above 50°F, the plants stay outside.

I begin to apply the HB-101 in late April at the lowest rate. In several weeks, or when the temperature increases by 10°F, I begin to move the rate to the next higher concentration. By the end of May I am using the higher rate. I typically apply this product at 12 to 14 day intervals. The tropical plants show great vigor. Indeed, after the application of HB-101, 6 to 7 days later with either *Alocasia* or *Colocasia*, a new leaf or multiple leaves will emerge from the center of the plant. With plant maintenance, as leaves begin to yellow, they are removed, which encourages more growth. I have reduced the amount of liquid soluble fertilizer I have used previously. The amount was typically a table spoon, 14.8 mL, to 1½ tablespoons to 2½ gal., 7.57 L, of water. I now use about 60% less product, when incorporating the HB-101.

Temperate perennials appear to have better color in their leaves, and produce more roots when treated with this product correctly. The roots that are forming are finer roots, or more root hairs, in a container. I applied only HB-101 to several flats of *Asarum canadense*. The rate was the middle dilution, at 20-day intervals for 5 weeks. The ginger was dug dormant, from display beds, in late winter/early spring. The clumps were then transferred into Anderson® deep propagation flats. Whatever soil remained on the roots was left alone. This was done to retain any mycorrhiza present. Soilless medium was used to fill the flats. It is my contention, that this product may very well aide mycorrhizal growth as a secondary benefit. This is something I cannot scientifically prove at this time. I do believe by my visual observations though, the presence of the typical mycorrhizal white growth on the root hair tips with the use of this product. With regards to the leaves, they grew “normally”. There were no larger than normal leaves. Twice a month, I would turn over the flats and observe the root and shoot growth. After the first several applications, roots were moving into the new media. They continued to grow at a constant rate through the season. At this time of the year, late September, fall is here in the upper Midwest, the trays are fully rooted. In late February or early March, these flats will be divided up into smaller divisions, which will be transplanted into 5- or 6-in. pots.

I admit these results were not obtained with strict scientific methods. None the less, this product does appear qualitatively at least to be a benefit to a number of different plants. I incorporate it in my garden maintenance business, and in growing plants in containers.

Thank you for your interest in this paper, it has been my pleasure to share this information with you.