Hormones Speed Roots

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SCIENTISTS HAVE shown that it is possible to help the formation of roots on plants by the application of certain growth-substances, or hormones, which are closely tied up with all living things.

They experimented, and out of their work have come several such substances. One of them is Hormodin A, (a solution of indole-butyric acid) which already has attained a commercial status. Tests indicate that it hastens root production on certain plants and contributes to the formation of a better root system.

At the Iowa station we recently did some experimenting with this new material to see what species it would affect and how it would react on cuttings at different stages of maturity and at different seasons of the year. (Cuttings are sections taken from the stems of plants which take root when planted and become new plants.)

Hormodin A still is of small value to the field crops farmer, but its story is interesting and we think, one you may like to know something about.

In our tests we found that treatment with hormodin A accelerates the rooting of some cuttings; produces a larger root system; increases the percentage of rootings, and makes it possible to root cuttings of some species that normally root poorly or not all. In general, however, plants that do not root ordinarily from cuttings were not benefited by the hormone.

Here is how we treated the cuttings preparatory to planting. Four types were used to provide the material. They were: herbaceous, non-woody type; greenwood, soft cuttings taken from woody plants during the green season; evergreen and hardwood. The hardwood cuttings were tested during the winter months, thus they were differentiated from greenwoods. We mixed various strengths of the Hormodin A solution, and treated the cuttings by dipping them in the solution for 24 hours. They were then planted in a special plot, along with untreated cuttings to act as a check on the growth of the treated ones.

Herbaceous cuttings responded to the treatment, some at low concentration, others at higher, depending on species, though if the concentration was too low there was little response, and if too strong the plants were damaged. Some of the common herbaceous plants that we found were helped by the solution were the geranium, begonia, and coleus—that variegated red and green plant sometimes called “foliage.” Sweet potatoes, too, were affected, but they are easy to root anyway.

Greenwood cuttings responded favorably, compared to untreated cuttings. But the fluctuation of temperature and humidity during Iowa summers made it hard to grow the cuttings successfully. Apple cuttings, for example, wouldn’t root at all, regardless of treatment. Some of the plants that responded were the honeysuckle, rose, lilac, dogwood, mock orange and willow.

Evergreens gave us a lot of trouble. They naturally are slow to root, and sometimes they rotted or died in the plot. (Continued on page 16)