PATENT SPECIFICATION

Inventor: GEORGE WALTER CHAPMAN

703,307

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COMPLETE SPECIFICATION

Composition for Stimulating Plant Growth

We, CHEMARA PLANTATIONS LIMITED, a company incorporated under the laws of the Federation of Malaya, of 19, Mountbatten Road, Kuala Lumpur, Malaya, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to compositions for stimulating plant growth and more particularly to compositions for application to rubber trees to increase the yield thereof and/or stimulate the renewal of the bark.

The present invention is an improvement in or modification of the invention described in our prior Patent No. 677,468.

It has been found that in addition to the materials specified in our aforesaid prior Patent β-naphthoxy acetic acid or salts or esters thereof may also be employed in such compositions for stimulating plant growth.

According to the invention a composition for promoting the yield from rubber trees and/or stimulating the renewal of bark thereon comprises β-naphthoxy acetic acid or salts or esters thereof and sulphur, mixed with vegetable oil or oils to form a product suitable for application by painting.

In carrying the invention into effect according to a preferred form thereof the composition has the following proportions of ingredients:—

β-naphthoxy acetic acid 1.5% in vegetable oil, e.g. palm oil,

sulphur 1.0% in vegetable oil, e.g. palm oil,

cresote oils 1.0% in vegetable oil, e.g. palm oil.

The above proportions may be varied without substantially affecting the results obtained when employing the composition.

In order to obtain the maximum effect from the composition it should preferably have an optimum acidity of approximately 40% expressed as palmitic acid. However, an acidity value between 15% and 50% does not involve any great reduction in the action of the composition.

The requisite acidity can be conveniently obtained by using low grade palm oil which has been purified, but since this material is almost solid it is necessary to add a fluid vegetable oil of low acidity such as coconut oil or a purified mineral oil or a mixture of the two to give a product which can be painted on to the trees in the prescribed manner. No special claim is made for the manner of application.

Prepared in the above manner the product is chemically stable until applied to the trees when in the presence of air and moisture a chemical reaction with the sulphur takes place.

β-naphthoxy acetic acid has a similar action to certain plant hormones and it is believed that the favourable results which are obtained with the use of the composition according to the invention are due to a chemical reaction between the sulphur and the other compounds in the presence of air and moisture, as when applied to a rubber tree. The organic sulphur compounds formed by such reaction are detectable in the product by their smell a few days after application to the tree and thereafter for a period of several months. The effect of these sulphur compounds is believed to be responsible for the production and maintenance of the increased yield which is obtained by the use of the composition and also for the enhanced bark renewal which continues for many months after the application of the composition.

Where it is desired to increase the yield of rubber from a rubber tree the method of application of the composition is as follows:—

An area of 3 inches below the tapping cut is scraped free of dead corky tissue down to the living bark, so that the product may gain entrance to the living portion of the tree. The product is then applied with a brush.

It must be noted that if application is made

above the tapping cut the yield will be reduced, although of course bark renewal is greatly stimulated.

In order to stimulate bark production the composition is applied in the following manner.

The area where it is desired to increase bark production is scraped clear of dead tissue and the product applied with a brush.

This method can not only be used to increase bark renewal but can be used to increase the thickness of untapped trees where the bark is thin.

The application for the purpose of increasing yield is at the rate of 1 lb. of the product per 100 trees of approximately 24 inches circumference over the 3 inches cleared below the tapping panel.

A corresponding rate of application is used over the area in which it is desired to increase bark production.

The quantities increase or decrease proportionately in larger or smaller trees.

Experiments prove that a twenty-five per cent. increase in yield over four months is obtained while double the thickness in bark should be obtained over twelve months.

What we claim is:—

1. A composition for promoting the yield from rubber trees and/or stimulating bark renewal comprising β-naphthoxy acetic acid or salts or esters thereof and sulphur, mixed with vegetable oil or oils to form a product suitable for application by painting.

2. A composition according to Claim 1 having an acidity value of substantially 40% expressed as palmitic acid.

3. A composition according to Claim 1 having an acidity value lying between 15% and 50% expressed as palmitic acid.

4. A composition according to any of Claims 1 to 3, wherein the vegetable oils are purified low grade palm oil admixed with a fluid oil of low acidity.

5. A composition according to Claim 4 wherein said fluid oil is coconut oil.

6. A composition according to Claim 4 or 5 wherein a purified mineral oil is employed or a mixture of coconut oil and a purified mineral oil.

7. A composition according to Claim 1, comprising the following proportions of ingredients:—

β-naphthoxy acetic acid 1.5% in vegetable oil, e.g. palm oil

sulphur 1.0% in vegetable oil, e.g. palm oil

cresote oils 1.0% in vegetable oil, e.g. palm oil.

8. A composition for promoting the yield from rubber trees and/or stimulating the renewal of the bark thereon, as described and exemplified herein.

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ERRATUM

SPECIFICATION No. 703,307

Page 2, line 55, *for* "a.g. palm oil" *read* "e.g. palm oil"

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31*st August*, 1954.

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* C L M S *

Heron Rogers