pruned according to the invention, all while harboring less flowers per plagiotropic branch on average after 11-15 months of cultivating.

Surprisingly, the method of the invention not only leads to an accelerated and better controlled flowering, but it also leads to a higher number of flowers per cultivating time and plant mass. Furthermore, it was surprisingly found that the method of the invention allows for more than one flowering event per plant over the span of 1 year. At present, it is believed that the controlled lighting and/or continual pruning are responsible for this remarkable and very useful effect. Accordingly, the method of the invention can optionally comprise, subsequently to step d., at least a further step e. of bud formation which occur 250 days after, preferably at 220 days after seed germination cutting for further rooting. of further cultivating the flowered shoot for a period of at maximum 8 months, until flowers form again on the flowered shoot. Furthermore, it is preferred that the method according to the invention optionally comprises subsequently to step d., it comprises a step e. of bud formation which occur 380 days after, preferably 340 days after seed sowing.

In particular the cultivating in step e. is performed until flowers form anew on the plagiotropic branch. Regarding the cultivating, all that has been described for steps b. and d. likewise applies to step e. With the method of the invention, the duration of step e, i.e. the time between the end of the first flowering to the second flowering on the plagiotropic branch, can be reduced to a period of at maximum 8 months, preferably at maximum 6 months, or at maximum 4 months. The further cultivating of step e. can be carried out with controlled lighting as e.g., in step d. and/or further continual pruning, with wholly or partially blocking off natural light. Good results were obtained with horticulture in a greenhouse at 16-35 °C, 60-95 % RH, and fertigation.

Due to the special pruning during cultivating and the very early flowering, the flowering plants obtained by the method of the invention are very different in many ways from plants of the family of rubiaceae known in the prior art to be in a flowering stage. Not only are the plants obtained by the method of the invention different in appearance due to the pruning and maintenance of only or mainly the plagiotropic branch or branches. They are also much younger at the time they flower as compared to flowering plants of the family of rubiaceae known in the prior art to be in a flowering stage.

	29 months	28.2	0.0	0.2	0.2
	30 months	31.0	0.0	0.2	0.2

The example shows that the pruning and/or controlled lighting according to the invention led to an increase in the number of total buds per plagiotropic branch. In particular, the number of nodes bearing floral buds showed a first maximum after 26 months, then decreased, then increased again, which indicates that after 2-3 months of cultivating the flowered shoot, a second generation of flowers started to form in the pruned plants. This effect was not observed in the unpruned plants.

Moreover, the pruning led to an increase in the number of nodes bearing floral buds per plagiotropic branch, and, more importantly, to an increase in the number of pollinated flowers and visible fruits per plagiotropic branch. Only by means of the method according to the invention, plants were generated that after 26 months of cultivating reliably harbored more than 1 flower per plagiotropic branch.

The example shows that by means of the method according to the invention, the number of fruits that can be obtained after a short period of cultivating can be significantly and reliably increased.

Finally, 296 seeds were isolated from the cherries collected on pruned trees and placed under germination conditions to assess viability. A total of 225 seeds germinated properly (76%) and were converted into plants indicating that the method is compatible with a use for coffee seed production.

Example:

23 seedlings of GPFA70 (Arabica) as well as 23 cuttings of GPFA107 (also Arabica) were sown and grown until they reached the first plagiotropic ramification. For both varieties, 20 plants out of 23 were then pruned according to the method and placed inside growth chambers with controlled photoperiods (20 pruned trees, from 10 to 14 hours daylength, LED lighting 105 µmoles m^{-2} s^{-1} in average), whereas the remaining 3 plants were allowed to grow freely under greenhouse conditions (control: 3 unpruned trees under natural photoperiod with light compensation using HPS lamps delivering 50 µmoles.m^{-2}.s^{-1}).

CLAIMS

1. Method for accelerating the time to flowering of and/or increasing the number of flowers formed by a plant of the family rubiaceae, the method comprising
   a. providing a plant seed or plant part which is capable of regeneration,
   b. cultivating the same to a stage in which a cultivated shoot is obtained that comprises a fork from which an orthotropic shoot and at least two plagiotropic branches have developed,
   c. pruning the cultivated shoot at said fork by removing at least the orthotropic shoot and maintaining at least one plagiotropic branch to obtain a pruned shoot,
   d. cultivating the pruned shoot until flowers form on the at least one plagiotropic branch to obtain a flowered shoot.

2. Method according to claim 1, characterized in that the cultivated shoot obtained in step b. and pruned in step c. comprises only one fork and/or a first fork that has developed in the cultivated shoot.

3. Method according to claim 1 or 2, characterized in that the cultivating in step d. further comprises continually removing any newly formed orthotropic shoots.

4. Method according to any one of the preceding claims, characterized in that subsequently to step d., it comprises a step e. of bud formation which occur 250 days after, preferably 220 days after cutting for further rooting.

5. Method according to any one of the preceding claims, characterized in that subsequently to step d., it comprises a step e. of bud formation which occur 380 days after, preferably 340 days after seed sowing.

6. Method according to any one of the preceding claims, characterized in that the cultivating in step d. comprises stimulating specifically the remaining at least one plagiotropic branch by exposure to a light source shining on said at least one plagiotropic branch, wherein the light source is positioned at a distance of 2 to 50 cm from a surface of the at least one plagiotropic branch and emits light in the spectral range of 400 to 750 nm.

7. Method according to any one of the preceding claims, characterized in that the cultivating in step b. is carried out indoors and encompasses lighting with a photoperiod of 8 -14 h per day.

8. Method according to any one of the preceding claims, characterized in that during the cultivating in step b. and/or step d., the lighting is set up such that the plant receives natural and/or artificial light having a photosynthetic photon flux density of 80 to 1500 µmol m^{-2} s^{-1}.

9. Method according to any one of the preceding claims, characterized in that the cultivating in step b. and/or step d. is carried out while wholly or partially blocking off natural light.

10. Method according to claim 9, characterized in that the blocking off of natural light is carried out only in step d., preferably only while outside the photoperiod.

11. Method according to any one of the preceding claims, characterized in that the cultivating in step b. and/or step d. comprises growing at 16-35 °C, 60-95 % RH, and fertigation.

12. Method according to any one of the preceding claims, characterized in that it contains no hormone treatment and no genetic manipulation.

13. Method according to any one of the preceding claims, characterized in that the plant is of the genus coffea.

14. Plant of the family rubiaceae comprising at least one flower per plagiotropic branch, obtained by a process according to any one of the preceding claims, characterized in that the plant is at maximum 30 months of age.

15. Plant according to claim 14, characterized in that it is a variant exhibiting male sterility.

16. Use of a plant according to claim 14 or 15 for producing fruit and/or seeds or in a breeding program.

17. Use of controlled lighting and/or pruning for accelerating the time to flowering of and/or increasing the number of flowers formed by a plant of the family rubiaceae,

wherein the pruning is carried out on a cultivated shoot of the plant at a growth stage in which it has branched into an orthotropic shoot and at least two plagiotropic branches, and wherein the pruning comprises removing at least the orthotropic shoot and maintaining at least one plagiotropic branch.