

Report on an investigation into the growth of plants using 'Miracle Gro' fertiliser

The Question

Will the use of 'Miracle Gro' fertiliser produce taller plants than those grown without 'Miracle Gro'?

Prediction

My prediction is that the plants which are fed on 'Miracle Gro' will grow taller than those grown without fertiliser. This is because fertilisers contain minerals and other nutrients, such as nitrates and phosphates, which are useful for healthy plant growth. In addition, many gardeners use this product so they must be confident that it works.

Equipment and Materials

- 10 bean plants of equal size, each planted in uniform pots, in 8 cm of soil. The tip of each plant should be 5cm above the soil line
- 'Miracle Gro' plant fertiliser
- Water and measuring jug
- Ruler

Variables

In order to determine whether 'Miracle Gro' fertiliser produces taller plants, half of the plants will be fed with 'Miracle Gro' and water whereas the other half of the plants will only be fed with water. To ensure a fair test, the following conditions will remain constant: the position of the plants; the type of soil; the size of the plant pots and the quantity of water.

Method

Every day for a period of one month, each plant was given 50ml of tap water. In addition, half of the plants (5) were fed 6 drops of 'Miracle Gro' on alternate days, whilst the remaining plants were given no fertiliser. During the month, no other action which might have affected the growth of the plants was taken. The height of each plant was accurately measured with a ruler at the end of the month.

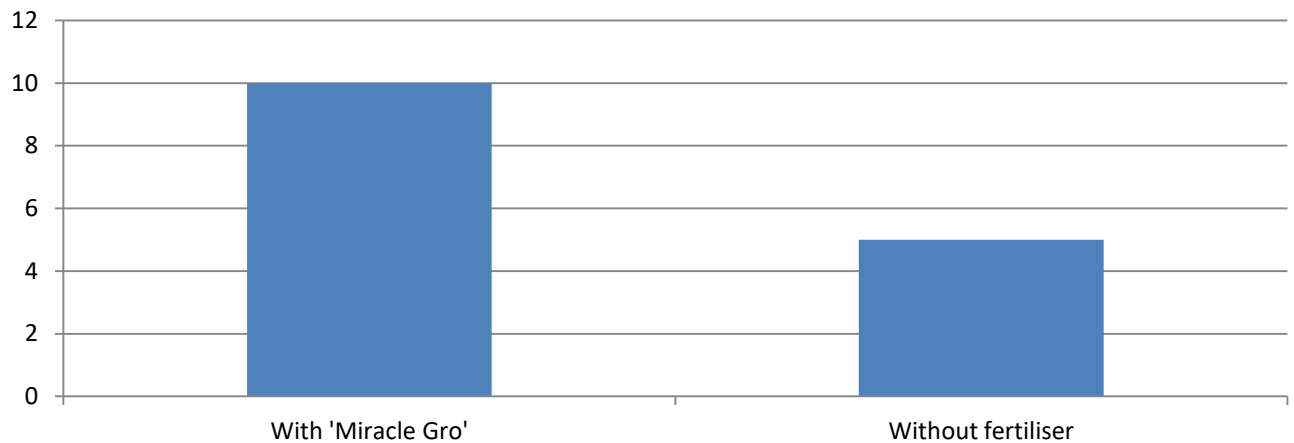
Results

Plants 1, 2, 3, 4 and 5 were the plants which were fed on fertiliser and water.

Plants 6, 7, 8, 9, and 10 were the plants which were not fed on fertiliser.

Plants fed with 'Miracle Gro'					Plants given no fertiliser				
1	2	3	4	5	6	7	8	9	10
Plant height (in centimetres) after one month of investigation									
10	10.5	9.5	11	9	5	6	4	3.5	6.5
Average height of this group					Average height of this group				
10 cm					5 cm				

Average height of plants in cm after one month



After one month, the average height of the plants fed with 'Miracle Gro' was 10cm, whereas the average height of the plants which were not fed any fertiliser was 5cm.

Conclusion

The conditions of this test should have represented a fair test because the only variable was the controlled use of 'Miracle Gro' on half of the plants. The data shows a clear difference between the two groups of plants: those which were grown with 'Miracle Gro' grew twice as tall as those which were only given water. From this it can be concluded that the use of 'Miracle Gro' will very likely make bean plants grow taller after a period of time.

On reflection, it should be noted that this test only considered one type of plant (beans) and further trials could be carried out on other varieties of plant to determine whether 'Miracle Gro' has the same effect.