

Appraisal of DIATURE for the small Market Gardener

Introduction

I am in my 4th year of introducing a market garden business to our 13.5 acre farm in Dol-Y-Bont.

The farm was previously, for several decades, mainly confined to Guernsey cattle. This was later extended to sheep farming and this year pigs were introduced.

The years of cattle and sheep farming has produced a growing opportunity to the enriched soil. For the last 4 years I have aimed to produce high quality vegetables, so earlier this year when Dr Helen Edwards introduced me to Diature I saw a possible opportunity to enhance the quality of my vegetables.

Diature was introduced to me as an organic product which may aid crop quality. Thus my interest was with this unknown substance (to me) was to compare the growth and development of my vegetables with and without Diature.

Method of Monitoring and Recording

It was clear that if an accurate account was to be made of the difference that Diature would or would not make, the monitoring would have to begin with the planting of the seeds, their transfer around the growing system and their crop, quality, yield and start and completion picking dates.

To achieve this I have recorded where the seeds and later plants have been kept. This required producing plans of the propagator, the green house shelves and plans of the plants transfer to the final growing position.

Where seeds have been sown directly into the ground I have purposefully grown sets of rows where the introduction of Diature has and has not been introduced.

In all cases where Diature has been introduced at seed stages it has been continued with transplanting and has not been introduced within the growth of the Diature free seeds/plants.

NB: It is worth noting that the fertiliser used, as produced on the farm is a 'home produced' combination of layers of sheep & chicken waste / grass / light foliage cuttings & weeds, all collected on the farm. The current compost being used is from a matured pile completed 3 years ago.

Observations and Results to-date

From my records I have found that germination, for nearly all seeds, is between 10% and 20% quicker with the introduction of Diature. This is assessed at a date when approximately 80% of germination has taken place.

During the first weeks of the plants growth it is difficult to assess the difference in growth between the plants with and without Diature (all other compost is still used in equal amounts to all seeds and plants). This may be due to the natural variation in the individual seed quality.

However, as the plants progress, as can be seen with Dr Edwards photographs, the plants have an accelerated growth and in some cases a greater number of 'fruit'.

Conclusions

It is not possible to make a complete set of conclusions at this stage in the growing process. However, with the results that have been achieved thus far I have been drawn to using Diature on all vegetables which will require more than 1 year before fruition of produce i.e. asparagus and rhubarb (both grown from seeds).

The reduction in germination time has provided a quicker re-use of propagator and greenhouse space. If this trend continues and the crop is wholesomely complete quicker, then re-use of the land for increased productivity can be achieved.

Clearly the final appraisal of DIATURE will be in the comparisons in the yield volumes, quality and of course any taste variations in the end product.

Phil Turner-Wright Dot-Y-Bont
Ceredigion
17th July 2015

Analysis of effect of Introduction of Diature to planting areas of selected vegetables

ROW Ref.	VEGETABLE	COMPOST +/- DIATURE	DATE SOWN	START HARVESTING	END HARVESTING	Av. YIELD PER PLANT
1, 2D	Squash	+	03/05/2015	22/08/2015	01/11/2015	37
3, 4D	Squash	-	03/05/2015	30/08/2015	01/11/2015	28
7,8,9D	Courgette	+	12/05/2015	19/07/2015	24/10/2015	33
5,6D	Courgette	-	12/05/2015	23/07/2015	24/10/2015	26
10,11D	Marrow	+	14/05/2015	23/07/2015	17/10/2015	7.4
13,14D	Marrow	-	14/05/2015	07/08/2015	10/10/2015	5.2
36,37,38,39A	Sweet Corn	+	05/05/2015	01/09/2015	01/11/2015	8.5
17,18,19A	Sweet Corn	-	05/05/2015	16/09/2015	24/10/2015	6.4

N.B. End of cultivation date is last date crop picked, which was suitable for stall sale. Additional crops not suitable for stall sale were not counted and used as pig fodder.

The exercise of monitoring the inclusion of Diature and using the same farm made compost has, as indicated before, produced larger crops e.g. beetroot and lettuce and as shown in the above records greater yields.

Due to the obvious benefits we have achieved with introduction of Diature we will continue with it's inclusion in our expanded market garden business without any similar monitoring process.

However, during a test with beetroot, rows A1 and A2 without the inclusion of Diature and rows A3 A4 and AS which were planted with the inclusion of Diature it was noticed that the slugs had attacked rows A1 and A2 quite severely and A3 A4 and AS had minimal signs of attack. I cannot explain the differences and it may be influenced by other factors but this will be well worth exploring.

Finally, I have not found time to test any taste variations with the introduction of Diature, again another area possibly worth exploring.

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Vegetables sown in compost with and without Diature

BETROOT: LHS no DE,

PUMPKIN: Top row Plus DE, bottom Row minus DE

RHS plus DE

Faster germination so earlier to plant out

N.B. No slug damage on DE grown beet

Minus DE beet eventually got a lot of slug damage.



LETTUCE: Top Growth, same variety, same planting and harvesting date.

LHS no DE; RHS plus DE

Lettuce Top & Root growth

LHS no DE; RHS plus DE



MAIZE: sown in compost on same date and later planted out with and without Diature

Photographs taken at the same time for each treatment.

MAIZE: LHS minus Diature

MAIZE RHS plus Diature

Note improved strength and glossiness of leaves and flower tip growth in Diature grownplant



MAIZE: Later growth LHS minus Diature

RHS plus Diature. Note flower sets on Diature sown plants

