Supporting & Increasing Organic Production

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An Roinn Talmhaíochta, Bia agus Mara Department of Agriculture, Food and the Marine

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# Suckler Finishing

on the farm of Oliver & Anna Dixon, Claremorris, Co. Mayo

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Supporting & Increasing Organic Production

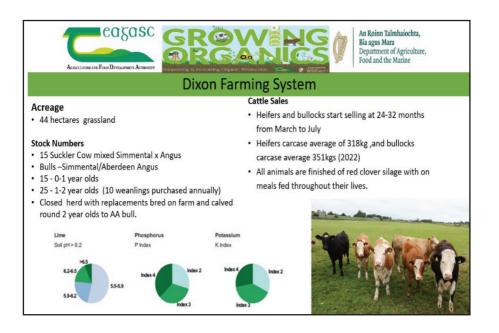




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## Introduction

The Dixons began looking at organic farming, as an option in 2010. The high costs associated with conventional farming had become prohibitive. After careful consideration, the decision was made to take the organic option. In 2010, the farm entered conversion to organic production and full organic status was achieved in May 2012.

On the farm today there is a suckler enterprise of 15 spring calving suckler cow's .All progeny along with 10-15 weanlings purchased annually, are finished of red clover silage, with no concentrates fed in the finishing phase.

## Farm Details and Land Use

The holding is made up of two blocks of land, one home farm block of 26.54 hectares and 17.15 hectares in an out farm at Ballyglass, Claremorris with a grand total of 43.69 hectares of permanent pasture.

In 2023, 4.85 hectares of red clover silage was made, 4.85 hectares of hay and 6.5 hectares of grass silage was saved for winter feed.



Table 1 – Planned Land Use Details 2023

Land Use	Hectares
Grass red clover silage	4.85
Grass silage	11.35
Grassland	27.49
TOTAL	43.69

## **Cattle Enterprise**

Table 2 – Stock Details 2023

Stock Type	2023
Suckler cows	15
Calves	13
1 – 2 year olds	25
Finishing cattle	10

#### **Cow breeds**

The cows are Angus x Simmental types and are currently bred to a Simmental stock bull for two main reasons.

Firstly Oliver wants to increase the carcase weights of his finished stock and secondly Oliver wants to maintain a closed herd predominately and breed his own replacements from his own cows.

Maiden heifers are mated to an Angus bull, with every effort being made to calve down at 24-26 months of age.

#### **Management of cows**

Calving is planned to start April first, as the weather is improving and cows can calve outdoors or can be moved out quickly with their calves.

This timing of calving reduces the chances of scour and other associated diseases at calving time.

Cows are mated in July August, with weaning occurring in November, with cows fed on grass silage , while weanlings are fed ad lib red clover silage.

In mid-February weanlings are turned out to grass, depending on weather conditions and graze the silage paddocks.

The grass /red clover fields are not grazed by cattle.



## Sales

#### **Cattle sales**

Oliver plans his sales of finished animals booking them in with John Brennan, an agent for Slaney Meats, slaughtering his cattle in two lots; April and September in 2022.

In 2022, 12 bullocks were finished, 5 in April and 7 in September. Eight heifers were finished 5 in April and 3 in September.

Average carcase weight for the bullocks was 351kg while average carcase weight for heifers was 318 kg carcase.

The ages of all animals ranged between 24.6 months to 32.4 months with the majority R grades 4 + and 4 -. Five euro sixty cent was the base price for both lots of cattle.

The big difference between Oliver and many conventional finishers is that when he is paid for his stock, large amounts of the payment is not taken out to pay for feed and fertiliser, the two biggest variable costs on drystock farms.



## **Grazing Management**

Cows and young stock are grazed on a rotational basis around the farm using a paddock system. Topping is carried out as necessary to improve grassland performance and to control weeds. Finishing cattle in their second summer at grass are grazed ahead of the younger stock to avail of the best grass and gain more weight faster to finish more quickly.

#### **Winter Feed Management**

Cows and calves are housed in late October, when calves are weaned and introduced to the grass red clover silage.

Cows are fed on grass silage only as the grass red clover silage is too high in both energy and protein leading to overweight cows and subsequent calving difficulties.

## **Grassland Management**

Oliver practices a paddock system, for both suckler cows and the yearling and finishing stock. The paddock system has many benefits in grassland management. It gives farmers control over both the animals and the grassland, making sure animals graze out fields effectively, helping control weeds that can be an issue in an organic system. It also gives the farmer the flexibility to remove paddocks going "strong" and get them back in rotation quickly after taking bales.

The yearling and finishing stock are grazed on the out farm with the finishers given priority access to grass, grazing ahead of the yearling stock.

## **Red clover on the Farm**

According to Oliver, the grass red clover silage "that's the meal, that's the profit, you can only control what happens inside your farm gate."

## The red clover silage is the driver of profitability on Oliver and Anna s farm.

If that crop was not grown, the farm would be entirely dependent on direct payments to generate an income. Oliver established a red clover grass sward in 2013 and on a second field in 2019.

The table below shows the yields from both fields in 2022

#### Table 3

Yields for red clover fields in 2022			
Date Cut	Field 1 2013 reseed	Field 2 2019 reseed	
Cut 1 May 10th	9 bales /acre	8 bales/acre	
Cut 2 July 7th	3 bales/acre	4 bales/acre	
Cut 3 August 12th	2 bales/acre	2 bales/acre	
Cut 4 Sept 16th	1 bales/acre	2 bales/acre	
Total bales /acre15 bales/acre16 bales/acre			

#### **Reseeding May 2023**

Currently, there is 4.5 hectares of grass-red clover leys on the farm. 2.5 hectares was sown in May 2023. Outlined below is the seed mixture used.

DAFM Red Clover Intensive silage mix		
Seed Variety	Kgs	
ABERCLYDE L.perenne	4.0	
ABERWOLF L.perenne	3.5	
GARANT T. pratense (T)	4.0	
ALICE Trifolium repens	0.50	
	12kg	

T = tetraploid

Oliver and Anna are going to sow some Multi Species sward in the coming years. Multi species swards containing clovers, ryegrasses, chicory and plantains.

They are less dependent on fertilisers, they help improve drainage and are known to make minerals more available for grazing stock.

They also have some anthelminthic beneficial properties.

## **Organic Regulation for Seed Usage**

- Organic seed database with details of suppliers and available organic seed <u>www.organicxseeds.com</u>
- Must seek permission to use un-treated non-organic seed from your Organic Certification Body (OCB)
- A derogation must be obtained from the OCB for use of any untreated non organic seed prior to sowing
- Conventional treated seed is not permitted to be used

### **Soil Nutrients and Manure Management**

The aim of organic farming is to maintain soil fertility levels by efficient recycling of farm-yard manure, slurry and or compost that is normally generated on the farm. The efficient storage and spreading of farm-yard manure, slurry or compost is vital to organic farming. Management of organic farms should ensure regular inputs of manures and a level of microbial and earthworm activity sufficient to breakdown organic matter and ensure continuous and efficient nutrient cycling. Keeping soils at a pH that facilitates organic matter breakdown and nutrient recycling is essential for successful organic farming.

Sources of Nutrients Used on the Farm 2022

- Farm-yard manure from the over-wintering of cows and young cattle
- Imported organic mushroom compost for bedding
- Imported straw for bedding

#### Where were Nutrients Spread

In general:

- Farm-yard manure: This is spread on silage ground in autumn predominately.
- Slurry: This is applied on silage and grazing ground.

## **Animal Welfare in Organic Farming**

#### **Livestock Health**

- A healthy herd in organic farming is achieved by a combination of good management, sound nutrition and good animal husbandry skills.
- Detection of problems needs to be early, and timely veterinary advice is invaluable when an animal is ill the organic farmer reacts in the same manner as their conventional neighbour and veterinary assistance is required immediately.

#### **Conventional Veterinary Treatments Permitted**

- Animals for meat consumption: 1 course antibiotics within 12 months.
- Animals for breeding: 2 courses antibiotics within 12 months.
- Dairy Mastitis: 2 courses antibiotics within 12 months, otherwise the cow is removed from the milking herd.
- If limits exceeded, organic status is taken away from animal.

#### Withdrawal Periods for use of Veterinary Products

- Double the withdrawal period for all products.
- Ensure all products used are approved by the organic body
- Abattoirs may have their own withdrawal periods

#### **Animal Health on the Farm**

The switch to organics has not lead to any adverse effects with regard to animal health on the farm.

Faecal analyses are taken to assess the level and identify the type of internal parasites if present.

#### **Organic Animal Housing Standards**

- Adjustments to meet organic standards may be necessary depends on farm situation.
- At least 50% of floor area must be bedded.

- Straw, rushes or untreated wood shavings are acceptable bedding materials and these need not be organic.
- All animal housing is subject to inspection and approval by the Organic Certification Body.
- See Table 4 below for space requirements.

Animal	Minimum Indoor Areas (net area available to each animal)	
	Live-weight m²/head Minimum (kg)	
Calves;	Up to 100kg	1.5
Beef Cattle;	Up to 200kg	2.5
Bull Beef;	Up to 350kg	4.0
	Up to 500kg	5.0
Suckler Cows		6.0
Dairy Cows	Up to 600kg	6.0 min.
	Over 600kg	1m <sup>2</sup> /100kg
Breeding Bulls	10m <sup>2</sup>	
Sheep	1.5m <sup>2</sup> per ewe 0.35m <sup>2</sup> per lamb	
		0.55m per famo

Table 4: Minimum Housing Area per head and by weight



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## **Financial Performance**

Organic farming systems are no different to any other enterprise. In order for any farm enterprise to be profitable, the returns from the enterprise must be greater than the costs of production.

Outlined below is the physical and financial data for the farm in 2022 based on Oliver's Teagasc e-Profit monitor analysis

AGRICULTURE AND FOOD DEVELOPMENT AUTHORITY	Teagasc eProfit Monitor Oliver Dixon Year: 2022	Teagasc National Farm Survey (Preliminary Results) Year: 2022
	Cattle	Cattle Rearing
Land Ha	43.69	31.3
Stocking rate(LU/Ha)	0.87	1.11
Gross output/ha	688	985
Gross Margin/ha	480	514
Net Margin excl		
direct payments/Ha	130	-150
Net Margin incl direct payments/Ha	952	300

## Key Observations on Oliver's financial performance

- The overall aim is to maintain good level of production. In 2022 the stocking rate is moderate, Oliver intends to increase the stocking rate in next few years to over 1.1 LU/HA
- The variable costs were slightly higher than previous years as there was additional bales of silage harvested.
- The big driver in profitability on the farm is grass red clover silage; without it the costs would be an additional 400-500 euro/head variable costs, eroding any profit present.



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## Organic Certification in Ireland

A major factor that distinguishes organic farming from other approaches to sustainable farming is the existence of internationally acknowledged standards and certification procedures. The standards for organic production within the European Union are defined and enshrined in law by Council Regulation EC 834/2007 as amended.

In Ireland the Department of Agriculture, Food and the Marine is the competent authority (i.e. - the Department's Organic Unit is based at Johnstown Castle Estate Wexford) for regulating the organic sector and ensuring that the obligations and requirements of Council Regulation (EC) No. 834/2007 as amended and adhered to. The Organic Unit of the Department of Agriculture, Food and the Marine have designated Official Certification Bodies whose role is to certify organic producers, farmers and processors through and inspection process of each individual's unit or farm. Further information can be sourced from these organic certification bodies:

#### IOA (Irish Organic Association),

Inish Carraig Business Centre, Suite 13, Golden Island, Athlone, Co Westmeath. **Tel:** 090 6433680 **Email:** info@irishoa.ie **Web:** www.irishorganicassociation.ie

#### Organic Trust,

Naas Town Centre, Office A1, Town Centre House, Naas, Co. Kildare. **Tel:** 045 882377 **Email:** info@organictrust.ie **Web:** www.organictrust.ie



An Roinn Talmhaíochta, Bia agus Mara Department of Agriculture, Food and the Marine Targeted Agricultural Modernisation 3 Organic Capital Investment Scheme (OCIS)

Grant aid on eligible expenditure and shall be paid at the rate of 60% who are also current participants of the Organic Farming Scheme up to the applicable TAMS 3 maximum investment ceiling of €90,000 per holding.

#### How to Apply and Closing Date:

Online applications only through **www.agfood.ie** facility.

#### **Details and T&C:**

https://www.gov.ie/en/service/d7556-organic-capital-investment-scheme/

#### **Queries**:

DAFM Organic Unit, Johnstown Castle: **organic@agriculture.gov.ie Tel:** 053-9163425

## **Organic Processing Investment Scheme**

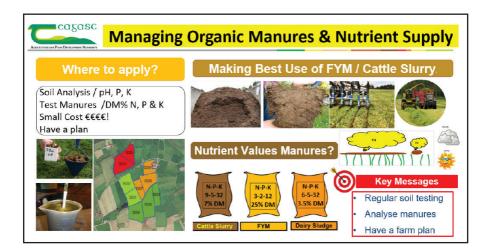
Grant aid of up to 40% on  $\leq 1.7$  million in facilities for the processing, preparation, grading, packing and storage of organic products with minimum level of investment in excess of  $\leq 3,000$ .

#### **Details and T&C:**

https://www.gov.ie/en/service/51e8d-organic-processinginvestment-grant-scheme/

#### **Queries**:

DAFM Organic Unit, Johnstown Castle: **organic@agriculture.gov.ie Tel:** 053-9163425



## Managing Organic Nutrient Sources Efficiently

Mark Plunkett, Johnstown Castle, Wexford

A key component of building and maintaining soil fertility in organic farming is an available supply of organic nutrient sources. For example, farm manures will supply valuable major and minor nutrients to supply annual crop requirements and help replenish soil reserves. Aim to apply organic manures on a rotational basis depending on soil test results and crop nutrient requirements. Organic manure nutrient content can vary widely depending on the source of nutrients and it is advisable to have the nutrient content of manures checked through laboratory analysis.

#### **Cattle Slurry P & K**

Cattle slurry is an excellent source of P and K fertiliser and apply to parts of the farm that have either low soil P or K levels, or to crops with high P and K demands such as grass silage. Targeting these areas will supply crop requirements and build soil P and K reserves. Slurry is also a very well balanced nutrient source as its P to K ratio is 1:6 which is ideal for grass silage crops. While for grazing ground the correct required P: K balance is 1:2 for example a more dilutes slurry is good (2 to 4% DM).

The P and K in cattle slurry is 100% plant available at soil P index 3 and 4. However, if a soil is P Index 1 or 2 the availability of the P will be only 50%. While potassium is 90% available on K Index 1 & 2 soils.

#### Slurry Nitrogen (N)

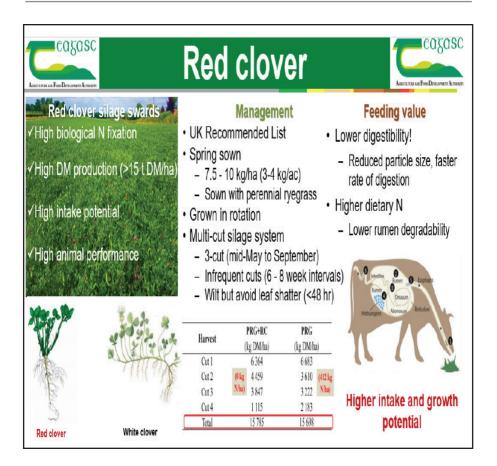
The form of N in cattle slurry is ammonium-N and approximately 40% is available at time of application. This readily available form of N is easily lost during application depending on weather conditions. Apply slurry in springtime on cool, overcast or misty days to reduce N losses and maximise N recovery. LESS technology (trailing shoe / band spreader) will further improve N recovery by 50% for example LESS will recover an extra 3 units N/ 1,000gals compared to splash plate application techniques. Therefore, aim to apply cattle slurry in the springtime by LESS to maximise slurry N value. Spring applied slurry by LESS is worth approximately 6 units of N per 1,000 gallons extra compared with summer application by splashplate, due to better N recovery at that time of the year (Table 1).

Table 1: Typical available N, P & K values kg/m³ for cattle slurry depending	
on application method	

Time of Application	N kg/m <sup>3</sup> (units/1,000gal)	P kg/m <sup>3</sup> (units/1,000gal)	K kg/m³ (units/1,000gal)	€/m <sup>3*</sup> (€/1,000gal)
Spring (LESS)	1.0 (9)	0.6 (5)	3.5 (32)	€9.7 (44)
Summer (Splashplate)	0.35 (3)	0.6 (5)	3.5 (32)	€8.3 (38)
Organic *Cattle slurry value based on fertiliser N, P & K values in 1st April, 2023				

#### Farmyard Manure (FYM)

Farmyard manure is a very good source of N, P & K and organic matter. The N in FYM is 30% available at time of application. The majority of N is organically bond and composting / breakdown prior to application will help increase the availability of all major nutrients. FYM contains a valuable source of organic matter / carbon to feed soil biology and help improve soil quality.



## **Red clover silage**

#### Nicky Byrne

Teagasc, Animal and Grassland Research and Innovation Centre, Grange, Dunsany, Co. Meath

#### Summary

- Red clover silage swards can produce high yields without the need for chemical N inputs due to its ability to fix in excess of 200 kg N/ha
- Red clover silages high intake potential increases live weight gains
- Cutting at 6-8 week intervals will help swards persist for 3-4 years

#### Introduction

Red clover (RC) can contribute substantially to organic, low-input and conventional animal production systems due to its ability to fix atmospheric N and support of high animal performance. These benefits contribute to beef systems of improved farm gate nitrogen (N) balance, through a lessened need for fertiliser and feed, while maintaining high animal performance. Swards with a high content of red clover (75% on a dry matter basis) are capable of fixing 24-36 kg N/t dry matter (DM) produced, meaning swards of high clover proportion and DM production are potentially fixing in excess of 200 kg N/ha annually. The inclusion of red clover in conserved grass silage swards can increase average daily live weight gain (ADG) compared to grass silage diets. Despite the many benefits of RC inclusion, it has had limited uptake across Irish production systems, likely due to its more complex management requirements, unsuitability to frequent grazing, reduced DM yield stability and persistence giving a short term lifespan of approximately 3-4 years.

#### Agronomy

Unlike for perennial ryegrass (PRG) and white clover varieties, no Recommended List currently exists for RC varieties in Ireland, with Irish producers relying on information from the UK Recommended/National List to identify suitable varieties. Red clover should be grown in rotation, allowing for a four year break to control diseases such as stem eelworm and Sclerotinia fungus (clover rot). Typically 7.5 to 10 kg/ha of RC in addition to 20 to 22 kg/ha of PRG should be sown on well drained soils with a soil pH of 6.5 to 7. Spring reseeds offer the greatest window of opportunity to optimise pre and post-sowing management.

Red clover has a deep taproot, an erect growth habit, with a low density of large shoots. Stems are formed from the growing points located on the crown on top of the taproot. Reserves of carbohydrates and N are stored in the crown and taproot, where they are remobilised to fuel regrowth after defoliation. The crown/growing point of RC is solitary and exposed, making it vulnerable to physical damage by machinery and animals. This means that RC is best suited to infrequent silage cuts rather than regular grazing. Cutting intervals of 6 to 8 weeks allow sufficient time for the canopy to intercept sunlight to replenish energy reserves. Increasing the defoliation frequency beyond three cuts can reduce yield due to insufficient replenishment of plant reserves and thus persistence. 'Late' silage harvests (beyond mid-September) can be difficult to ensile (insufficient wilting) and are of relatively low yield making it difficult to justify economically. To protect the crown of RC cutting height should be 7–8 cm. Red clover has a low water soluble carbohydrate concertation and high buffering capacity, reducing its ensilability. The inclusion of perennial ryegrass as a companion species will improve the overall ensilability of RC silages as well as wilting (24 to 48 hours) to increase DM concentration, while ensuring that the leaf is not damaged (shattered) as a result of over wilting and excessive machinery passes.

Red clover swards have the ability to fix high levels of atmospheric N, making it available to plants in the soil, supplying in excess of 200 kg N/ha annually. Mixed RC and PRG swards receiving no chemical N were found to have similar annual DM production to PRG swards receiving up to 412 kg N/ha per year (15.8 and 15.7 t DM/ha, respectively).

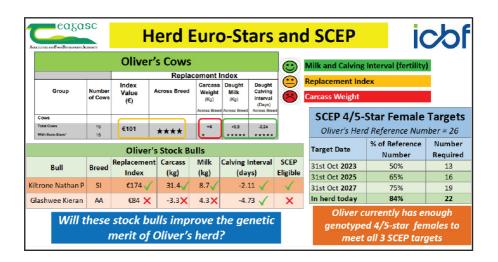
#### **Feeding value**

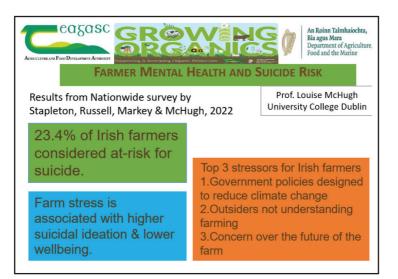
Cattle consuming silages containing RC have increase dry matter intake (DMI) compared to grass silage. From this additional DMI and increased levels of rumen undegraded protein cattle consuming RC silage can achieve increased levels of live weight gain (ADG). Unsupplemented (no concentrates) weanling steers offered RC silage had a greater live weight gain (0.89 vs. 0.59 kg/day), than those offered grass silage of comparable

digestibility, which was attributed to the higher intake of RC silage (7.75 vs. 5.59 kg DM/day) (Steen and McIlmoyle, 1982). The feeding vale of RC silage appears lower than that of grass, with lower levels of digestibility because of high fibre levels, need to support plant structure. Despite overall lower digestibility increased DMI and animal performance can be achieved due to the faster rate of digestion of plant fibres and increased particle break down contributing to increased passage rate and lower rumen fill.

#### Conclusion

The inclusion of RC into silage swards has great potential across Irish pasture-based production systems of all intensities. These swards have an enhanced ability over grass only swards to maintain high levels of herbage production and animal performance in the absence of chemical N fertiliser.





## Farmer Mental and Emotional Health and wellbeing

Oliver and Anna put a strong emphasis on the importance of maintaining positive mental and emotional health and wellbeing.

The farm is organised and managed to ensure workload is sustainable and that help is sought during busy periods. Oliver is aware of the impact of long working hours on mental, emotional and physical health. Oliver and Anna ensure they get adequate rest, eat a healthy diet and are proactive in maintaining a good work life balance.

Results from a nationwide survey by Stapleton, Russell, Markey & McHugh (2022) found 23.4% of Irish farmers considered at-risk for suicide. Farm stress was also found to be associated with higher suicidal ideation & lower wellbeing. The top 3 stressors for Irish farmers were government policies designed to reduce climate change, outsiders not understanding farming and concern over the future of the farm.

Oliver is an advocate of the power of talking to help maintain positive mental and emotional wellbeing. Sharing concerns with family members, friends, farm advisors or fellow farmers through talking brings a strong feeling of support. When concerns exist, it is important to be open and have the courage to talk about them.



## **Organic Capital Investment Scheme**

The Organic Capital Investment Scheme under the Targeted Agricultural Modernisation scheme TAMS3, is designed to financially support organic farmers to invest in facilities and equipment to improve farm efficiency, management and safety. It provides an incentive to organic farmers who are current participants of the Organic Farming Scheme to upgrade their agricultural buildings and equipment by providing an increased level of support to meet the considerable capital costs associated with the establishment of their enterprises. Grant aid is paid at the rate of 40% for licensed organic operators and 60% for farmers who are also current participants of the Organic Farming Scheme up to the applicable TAMS 3 maximum investment ceiling of €90,000 per holding. In the case of an application by two or more eligible partners in a partnership registered on this Department's Register of Farm Partnership the maximum eligible investment ceiling shall be increased to €160,000. Multiple applications per tranche are permissible.

Oliver has availed of funding under TAMSII to purchase a disc mower. Oliver has plans to apply to the Organic Capital Investment Scheme for funding to help purchase a new bale shear. He is also working closely with his Teagasc adviser regarding plans for other investments in facilities and equipment for his farm.

## Notes


## Notes


## Notes




#### **Contact Us:**

Teagasc, Head Office, Oak Park, Carlow organics@teagasc.ie www.teagasc.ie/organics @teagascorganics

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