NEWSLETTER
Issue 99 - Sept 2022

Dear Oliveti Members

What a fun and informative day we had last Sunday at the Field Day. For those who could not attend, we had a very successful Field Day at Leon Narbey's grove in Waipu. We had about 20 members attending and were privileged to hear Leon's story of his grove. We were also given a tour of the grove and a pruning lesson. Leon used a pruning pole saw plus pole mini chain saw to get to the high branches and a smaller hand saw for the lower branches demonstrating that the right tools for pruning were so important.

Also, of great interest for me is a 600year-old Pururi tree on his property that we were able to visit. Such a great experience standing under the branches of this huge tree that has been here over 250 years before Captain Cook arrived in New Zealand. We then visited the press house where Leon gave us a very interesting description and viewing of his olive press and press house. The press was rescued from a shed in South Auckland, covered in chook poo and he and his friend and neighbour Murray restored it to its present operational state. I was told that when the press is operating the noise is like a jet engine and it vibrates Leon's whole house.

On behalf of the Oliveti members I would like to give big vote of thanks to Leon and Jude for hosting the field day and giving us such a fun and informative day.

As part of the field day programme, the 2022 Olive Awards Certificates were presented, and we got to taste the award-winning Oils. Congratulations to all those who achieved Gold, Silver or Bronze medals. The Best in Show award went to Ewen and Lesley Hutchinson from Oruaiti River Olives. Huge congratulations to both Ewen and Lesley and I am sure the magnificent trophy will stand in pride of place in their home for the next 12 months.

Although we had 22 entries in the Awards this year, they only came from 10 groves so we would like to see more entries from more groves next year. Remember your annual subscription gives you one free entry to the Awards so it does not require much effort to submit an entry. You can take pride in achieving a medal and the medal is a great marketing tool looking great on your bottle and a guarantee for your customer of the Extra Virgin Olive Oil quality.

At the field day we were also able to welcome Bruce Wetherall as our newest member & whose grove is near Leigh. Welcome Bruce and we hope you enjoyed and learnt

something from the field day. We will be in touch as to when we hold the next field day and I would encourage as many as possible to attend**.** Not only do you learn more about olives and grove management, it can also be motivating to meet many like-minded interested people and it's usually a lot of fun.

Well pruning is either upon us or behind us and the first sprouting of the spring buds are now starting to form. Such an interesting time in anticipating as to how much flower we will get, how well the flowers pollinate, and then how much fruit set we will get. Any feedback is always welcome, use the Oliveti Chat Channel, and don't forget the Oliveti Shopping Cart and we will see you again at the next field day.

John Pearson (Chair)
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OLIVETI FIELD DAY – 11 September 2022 – NARBEY OLIVE OIL - WAIPU

Leon entertained us with a short-potted history of the wonderful 10-acre Ormiston Road property he and his late wife – Anita had purchased back in 1996. The Olive grove is beautifully set amid lush native bush and looks East to the Pacific Ocean. The property is resplendent with Nikau Palms, Pururi trees and limestone cliffs and set in the hills 10kms behind Waipu.

Leon told us that prior to buying their Waipu property, he and Anita were settling on another property which unfortunately fell thru but in anticipation, they had done their research and already acquired some three-hundred young Olive trees from various nurseries in Marlborough, Nelson and the Kapiti Coast. Leon quipped that he had been storing these in their garage in Auckland and lovingly tending them, even spraying them with copper – "possibly to much copper as they almost died" says Leon. Fortunately, they survived and formed the basis of their grove today.

Once they had decided on the Waipu grove layout (6m x 6m centres), Leon marked out a pattern radiating out from the access road that closely followed the contour of the hill. Not a straight row anywhere much to the confusion of pickers in later years. A contractor came in and augured holes for the trees – far too deep as it happens and Leon had to use shovel and crow bar to soften and breakup the compacted clay, in the process, losing a very expensive watch that is now buried under one of those trees. Leon says that field is now named "Dali Hill" after Salvadore Dali's famous painting.

Salvador Dali - SOFT WATCH

They planted J5, Leccino, Frantoio, Koroneki, Minerva Leccino and some Pendolino as a pollinator. Most of the planting was completed by 1997. They built their Carey Frances designed house in 2002 - AKA "The Office

Shed". Simple living quarters upstairs and press room and storage on the ground floor.

25-years on, Leon told us he is now cutting out most of his Leccino as it is prone to Anthraxnose and has done extensive grafting of the hardy and resilient J5 onto Koroneki, Leccino and Minerva Leccino. Remarkably Anita had produced a very detailed map of the property showing olive tree type and which nursery each individual olive tree came from.

Leon displays his pruning technique

Having decided to press their own olives, Leon says in 2005 he and Anita went to see a second-hand olive press in South Auckland. "We found it in a Pukekohe shed under an old canvas awning and completely covered with hay, chook poop and bits of plastic". Always the optimist, Leon bought it and trucked it back to Waipu. Fortunately and thanks to his very obliging next-door neighbour - Electrical Engineer Murray, they set about the task of completely disassembling the press. They then cleaned and/or replace missing and worn parts. Such was the magnitude of the job; it wasn't until five-years later - around 2010 that they finally got the press fully reassembled and running correctly. In the interim, they were getting their olives pressed at various press houses around Northland.

With regard to grove management – initially Leon sprayed with a Bordeaux mix but later and certainly since Anita passed away, he told us he has tended to pull away from a strict fertilizer regime and prefers to let nature take its course. Leon collects seaweed but also buys a seaweed spray concentrate that he combines with molasses and uses this mixture as a foliar spray and also sprays it around the roots and tree dripline for the micro nutrients it provides the soil microbial life.

He also uses Solubon regularly which is a water-soluble Boron solution applied as a foliar spray. Boron is lacking in most New Zealand soils and addition of this trace element plays a vital role in the healthy development of olives. Leon also sprays copper two weeks before flowering and again about two weeks after.

"I no longer conduct soil or leaf testing on a regular basis as frankly, it can make you a bit paranoid – soon you're thinking I need to spend $1000's of dollars on Phosphorus or maybe Potassium…. now I just mow the grass and that's about a 4-1-1 mix!" says Leon. He also regularly spreads seaweed pellets around the roots – at about 1.5m from the trunk.

Leon concluded by telling us that his late wife - Anita Narbey who died three and half years ago (*and who was long serving committee member of Oliveti – Ed*), commissioned Peter Jane – a wood turner and sculptor who works primarily in swamp kauri to fashion a suitable trophy for the "Best in Show" Annual Oliveti Olive Oil Awards. Anita approached the supervisor at Cornwall Park to see if there were some old branches or fallen olive trees from the 100year old+ grove. Anita found some that looked promising, and Peter was able to form the bowl shape yet retain the original texture of the bark along the edges that he polished and smoothed. The base was fashioned from swamp kauri and has Rewarewa edges giving it a good Kiwi base!

After his address and while the rain held off, Leon invited us out into the grove where he gave us a quick recap on his pruning technique with his preferred pruning tool - the Silky Zubat Pole saw. He emphasised the need to open up the centre of the tree if it is to be hand harvested as this allows maximum light and air penetration which will ultimately encourage healthy growth and fruit production.

Our thanks to Leon and his good friend - Jude Rae for welcoming and hosting the 20+ members of Oliveti on the property and for the fascinating insight into this award-winning olive grove. He certainly has a great story to tell around his Oil:

- He planted the trees
- He tends the trees
- He harvests the olives
- He presses the olives
- He bottles the Olive Oil
- He labels the bottles
- And he personally then sells his Narbey Olive Oil at the Grey Lynn market.

Leon's Oil was awarded Oliveti "2021 Best in Show".

ORIGINS AND LOCAL VARIATIONS OF SOME OLIVE VARIETIES IN NORTHLAND

Ewen Hutchinson
Oruaiti River Olives, Mangonui
Aug 2022

Have you ever wondered what our J5 variety really is, or why your Ascolano doesn't produce large fruit for table olives? This article may go some way to answer these questions.

Olive origins

There is a trend worldwide to determine the base variety of many locally named varieties, or to check the authenticity of plantings, using tree (morphology), oil (fatty acid composition and sensory analysis), and DNA (molecular markers) characteristics. Examples are the work currently being undertaken by Prof. Kailis of the Australian Mediterranean Olive Research Institute in conjunction with Western Australian olive growers (ref 1), or the ongoing work of the Council for Research in the Agricultural Economy (CREA) in Italy (refs 2 and 3).

An article in the Oliveti newsletter of July 2021 discussed the source of the original J5 cuttings from an old tree at Whangape and the work and personnel involved in that project. Interestingly, cuttings were taken and propagated at Johnson's Nursery in Kaikohe from 8 old trees, not 5 as many have thought, with 3 of those propagations still available in nurseries today. Sites included Cornwall Park, One Tree Point, Poutu and Whangape. One staff member involved in the project, who went on to be involved in the avocado industry and is now retired, recalled backing his Cortina up to the Whangape tree, raking off olives into the boot and taking them back to Whangarei for pickling!

Also of interest are the trees grown from cuttings taken many years later from the Whangape tree by a local orchardist, with fruit from these trees now producing EVOO called "Marino" "to honour the *whakapapa* of these trees" and sold by Tai Tokerau Honey.

The Ascolano small fruit issue may not be due to the Northland climate, but simply a mislabeling of nursery stock when the olive industry was being established 40 years ago. Neil Smith tells me there is a grove on the Kapiti Coast planted in 1988, that appears to have true Ascolano. Note there are 3 sub-varieties grown for table olives in Italy: Dura, Tenera and Semitenera.

To help resolve the J5 and Ascolano issue, leaf samples have been sent to CREA in Rende, Italy, for DNA analysis, with results expected by December. Oil samples have been sent to the Olive Technical Centre in Aix en Provence, France, for fatty acid composition and sensory analysis, with results in late January. I (a non-

biologist!) am undertaking the morphological analysis (see below) based on the CREA parameters.

Hopefully these three approaches will solve the mystery! I wonder what we should call our J5 in future - Northland XXXXX, or perhaps Super Frantoio?? Maybe Oliveti should take the lead and have a naming competition!

Local variations within the North Island

We clearly have major variations in tree behaviour, propensity to disease, olive harvest, and oil quality and characteristics from the Wairarapa to Northland. Olives NZ regularly publish annual fruit and oil yields, with both values usually higher in the North. What would be most interesting would to firstly look at the regional variation in tree characteristics from a number of groves, and perhaps later to collate fruit and oil yields, to see what that variation is. Tree data is relatively easy to measure and would of course take a season to complete. The full list of additional parameters used by CREA is extensive (ref 1) but is assumed to be consistent here across the North Island.

If Oliveti members or others would like to assist in this project, please let me know (ewen.hutch46@gmail.com). The basic measurements needed are shown below (10 to 20 samples averaged). Note it is expected there will be variation between seasons in these measurements. I look forward to your contributions!

Basic olive data (2022 results)

Parameter	**Frantoio**	**J5**	**Ascolano**	**Frantoio** (ref 2)
Location	NZ	NZ	NZ	Italy
Leaf length (cm)	6.00	6.04	5.69	6.15+/-0.54
Leaf width (cm)	1.42	1.43	1.37	1.58+/-0.22
Flower length(cm)	tba	tba	tba	3.67+/-0.70
No of flowers	tba	tba	tba	19.16+/-2.80
Ripe fruit weight (g)	3.03	3.39	approx 3	2.56+/-0.40
Pit weight (g)	0.39	0.44	0.41	0.42+/-0.05

J5 samples 2022

References

1. Cultivar project studies Australian olive phenotypes, Stanley G Kailis, Australian and NZ Olive Grower & Processor June 2022 pg38

2. Olive Germplasm - Italian Catalogue of Olive Varieties, Innocenzo Muzzalupo, IntechOpen 2012

3. The olive germplasm of the field collection of CREA, E Perri et al, CREA-OLI 2016

NEW ZEALAND PRODUCERS ENJOY STRONG SHOWING AT WORLD COMPETITION

Producers from New Zealand celebrated their success at the NYIOOC World Competition, earning their second-highest tally of awards

Jun. 6, 2022 by Lisa Anderson – Olive Oil Times

For the second year running, New Zealand's extra virgin olive oil producers earned six awards at the NYIOOC World Olive Oil Competition.

Despite birds, the threat of frost and the lack of availability of commercial harvesters complicating producers' 2021 harvest, they celebrated their third-highest success rate at the NYIOOC after producing 270,000 liters of olive oil.

I'm proud to see our producers punching above their weight by creating high-quality products that compete on the world stage.

- *Damien O'Connor, Minister of Agriculture*

"I'm so pleased to see all the winners recognized for their hard work, focus on sustainable production, and great understanding of growing exceptional olives in New Zealand conditions," Minister of Agriculture Damien O'Connor told Olive Oil Times. "New Zealand's olive oil industry is small and enthusiastic."

"I'm proud to see our producers punching above their weight by creating high-quality products that compete on the world stage," he added. "All the winners should be very proud of this achievement, and I am excited to see this vibrant industry continue to develop and innovate."

New Zealand's biggest winner, Loopline Olives, located in the Wairarapa region on the North Island, took home two Gold Awards, extending their record of success in the competition for the fourth year in a row.

"I am delighted that Loopline Olives Picual and Picholine extra virgin olive oils have once again been recognized as one of the best in the world," owner Stephen Davies Howard told Olive Oil Times.

"It is very special to have your hard work recognized in such a prestigious competition," he added.

Davies Howard said winning these awards "helps in our quest to educate more palates and lets people experience what real-quality extra virgin olive oil tastes like."

He added that the Wairarapa region's Mediterranean climate lends his oils their unique character, and Loopline's oils are pressed on the same day the fruit is harvested and are bottled to order. "Whether you order 250 milliliters or 1,000 liters, the quality is the same," Davies Howard said.

He added Loopline had a high yield last year, but the intensity of their oil and the polyphenol count was down on previous years.

"2020 was a drought year, and it was as though the trees were compensating for a low yield the previous year and the very intense oils produced," Davies Howard said. "We have just commenced the 2022 harvest, and after a perfect summer, things are looking good for the 2023 NYIOOC."

Another producer from the Wairarapa region, Blue Earth Intense, walked away with a Gold for their medium intensity blended extra virgin olive oil.

Margaret Hanson, who co-owns Blue Earth Olive Oil near Martinborough with her husband, Martin, said they were "delighted" to receive the award.

"It is great to have our own judgment, and the judgment of Olive New Zealand competition panellists affirmed," she said. "It is also great to see how New Zealand oils stack up internationally."

Hanson told Olive Oil Times that birds were a challenge during their previous harvest.

"They like our fruit as much as we do," she said. "So, it is a balancing act to get the fruit to the level of ripeness we want before the birds eat too much of it."

She added that winning the award firmly establishes Blue Earth's olive oil as a quality brand at an international standard.

"The size of our olive grove – about 1,100 trees – means that we can be meticulous as to how we care for it, and our local press is fantastic about processing it very quickly and efficiently," Hanson said. " Much was processed within four hours of coming off the trees."

Another winner from Martinborough, the Vintiner's Grove, earned a Silver Award for its medium-intensity Koroneiki extra virgin olive oil.

Co-owner Ross Vintiner, who produces the award-winning oil under the Dali brand, said he was honored to receive the award "especially for the most competitive competition cultivar, Koroneiki."

Vintiner said Dali Estate, where the olives for the award-winning oil are grown, had their largest-ever harvest last year.

"Using hand-held harvesters, it took over a month to complete," he said. "The weather was benign, and the oil had a shine and bite from the wealth of sunshine pre-harvest."

"For our brand, this is a peak global award, adding to our credentials as a top biodynamic and organic grower," Vintiner added. "For our workers and press, it's a shared recognition of a great job. For Aotearoa (New Zealand), the award is one more step in being recognized as a small but significant olive oil producer."

"Our oil is biodynamically and organically grown," he continued. "It is early harvest with high phenolic compounds and is full bodied. Dali is a product of our living soil, along with the energy nature provides above the ground."

Further west, producer Totara Tunnel Olives from Te Horo on the Kāpiti Coast scooped up a Gold Award for its medium-intensity Frantoio.

2022 NYIOOC World Olive Oil RESULTS

The complete results of the 2022 NYIOOC World Olive Oil Competition are now available on the Official Guide to the World's Best Olive Oils.

"We are thrilled to be recognized on the world stage for the quality of our extra virgin olive oil," co-owner Sally Murrey told Olive Oil Times. "After winning gold for several years in the New Zealand Extra Virgin Olive Oil Awards, it's humbling to be acknowledged as a producer of truly world-class olive oil. This award cements our previous results."

"After announcing our award we've had a lot of new interest in our oil and we are certain sales will continue strongly until we sell out," she added.

Murrey, who said they managed to harvest at the perfect time and in favourable weather conditions last year, said the "extraordinarily high" organic matter in Totara Tunnel's soil, coupled with their organic growing principles, sets their oils apart.

Another producer from the Kāpiti Coast, Kapiti Olives co-owner Diana Crosse, said winning a Silver Award for their delicate Frantoio blend is something of which to be proud.

"Winning a Silver Award in an international show such as the NYIOOC is a wonderful recognition of the quality of Kapiti olive oil," Crosse, who together with her husband, Grant, bought Kapiti Olives in April, said.

"This award endorses Kapiti olive oil, giving our customers continued confidence that the olive oil they are buying is a premium product," she said. "Kapiti Olives sits at the top of extra virgin olive oils in New Zealand, shown by its consistent winning of medals and awards."

Crosse said the 2021 harvest challenges were birds and the possibility of frost. "Harvest challenges are always about the timing to get the desired quality and flavour," she said.

Olive Leaves Can Improve Oil Quality, Researchers Find

Two studies demonstrated that milling olive leaves with the olives improved the oil's sensory attributes in industrial and small-scale experiments.

A new study confirmed that under certain conditions, the addition of olive leaves in the olive extraction process might enhance the overall polyphenol content and sensory profile of the resulting extra virgin olive oil.

According to the research published in Food Chemistry, the combined extraction of olives and olive leaves in a laboratory environment introduced chemical and

organoleptic changes to the extra virgin olive oil, which are different from those previously observed in an industrial setting.

"We began working by modifying specific parameters of the extraction process, such as temperature, time, addition or not of water," Ítala Marx, a researcher at the Instituto Politécnico de Bragança and University of Porto and co-author of the research, told Olive Oil Times.

"The following step was to co-extract olive oil with natural sources of phenolic compounds," she added. "In this study, we analyzed the impact of the addition of 1 percent fresh olive leaves, co-extracted with Arbequina olives."

The researchers decided on adding 1 percent of fresh olive leaves after observing that a small but undefined quantity of leaves ends up in the extraction process in most large-volume milling operations.

"From there, our team wanted to investigate what actually happens to the olive oil when such incorporation happens, in terms of sensory attributes, quality parameters, phenolic contents, volatile compounds," Marx said.

The results of the experiment, which was conducted using a small-scale Abencor system, show that the resulting olive oil offers a significant improvement in sensory attributes — but reduced polyphenolic contents and volatiles — compared to olive oil produced solely from olives without the presence of any leaves.

However, previous research from the same academic team in an industrial setting demonstrated an improvement in sensory attributes *and* an increase in polyphenols, compared to olive oil produced solely from olives without the presence of any leaves.

"We attribute such different results to the different conditions of the two studies," Marx said. "In an industrial setting, for instance, we were able to control operating temperature during the malaxation process, set at 22 ºC for 45 minutes, while in the lab setting, we had a 30 °C temperature during the malaxation process. And we also had different operational times."

"In the industrial-scale research, with the same percentage of fresh leaves added to the process, we obtained olive oil which is rich in phenolic contents than in volatile compounds," she added. "In the Abencor laboratory-scale research, we have seen that olive oils extracted without leaves would have maintained a higher amount of the main phenolic contents, which did not happen on the industrial scale research."

In the industrial scale experiment, recently published in the European Food Research and Technology journal, the researchers incorporated the 1 percent fresh leaves before the crushing process so that the contents were crushed together, obtaining particles of equal dimensions.

That did not happen in the Abencor system experiment, where the processed contents were reduced to smaller sizes using a small chopping machine.

"In such case, the surface contact is wider because the dimension is smaller," Marx said. "The interaction among contents is therefore higher. Plus, the leaves were added before the malaxation process. So we believe that this is the most relevant difference between the two experiments."

According to the researchers, the improvement to the olive oil derived from adding leaves is probably due to their chemical composition. They have not only a rich phenolic profile but also present enzymes destined to affect final quality.

Although, in the lab setting, with the Abencor system, the leaves did not increase the polyphenols and the volatile composition of the resulting olive oil. Both were higher in olive oils processed without leaves.

The researchers found that Abencor systems, widely used in research settings because they are smaller, cheaper and more practical, might not provide the complete picture.

"During the experiment with the Abencor system, we determined the enzyme pathways involved in the formation of the main phenolic elements, such as oleuropein, hydroxytyrosol, oleocanthal," Marx said. "We also focused on the lipoxygenases pathway, which is responsible for forming the main volatile compounds."

"We focused on both these pathways finding how the integration of the olive leaves produced an interaction with these pathways but did not contribute to them, affecting them negatively instead," she added. "So, our findings prove that the Abencor system, widely used in research for its accessibility and small scale, can not mimic the industrial-scale conditions."

The Portuguese researcher also noted that previous research experimenting with the Abencor system and comparing the results with industrial conditions often found different results even when relevant factors, such as operating time or temperature, were the same in both settings.

"Many factors must be considered, such as oxygen exposure, superficial contact, size of hammer mills and even more, such as the separation during the centrifugation and decantation and more," Marx said.

In the industrial scale experiment, the resulting extra virgin olive oil profile satisfied the most stringent quality parameters, while in the Abencor system, those results were not matched.

"It is interesting to note that in both settings, we obtained improved sensory attributes," Marx said.

She added that the research team is already studying the impact on the olive oil profile deriving from adding olive leaf micro-organisms into the olive transformation process.

Cited Articles: Food Chemistry, European Food Research and Technology
Olive Oil Times – June 28, 2022, by Paolo DeAndreis

A New Spectroscopy Method to Determine Bitterness and Pungency in Olive Oil

Jul. 19, 2022
Paolo DeAndreis
Olive Oil Times

Some technologies and processes routinely used in research laboratories have shown a high level of accuracy in determining the bitterness and pungency of extra virgin olive oil.

According to a new study published in Food Chemistry, the latest findings could change how these olive oil characteristics are determined, which is currently done with expert tasting panels.

The study suggests that the new technology would not face some of the challenges associated with traditional panel tests – such as cost, time and organization – but would not fully replace them.

"Many authors agreed on the controversies associated with the panel test, conducted by a human panel, especially in terms of efficiency and robustness, pointing out the need of setting up a supporting instrumental tool for sensory evaluation," the researchers wrote.

The virgin olive oil category does not require bitter and pungent attributes to be specified on its labels. However, current regulations allow producers to state the virgin olive oil's intensity on the label using specific terminology, such as robust, medium, delicate, well balanced or mild.

"Disposing of a fast and efficient analytical method to measure bitter and pungent attributes in virgin olive oil becomes a need to support the sensory panel," the researchers wrote. "We hypothesize that fluorescence spectroscopy as such could be the fit-for-purpose tool, given that it is selective, fast and solvent free."

Previous studies have already applied this technique to determine olive oil authenticity, adulteration, discrimination from other edible oils and level of deterioration.

However, no previous study has applied excitation-emission fluorescence spectroscopy to develop prediction models for bitterness and pungency attributes of olive oils.

To explore their hypothesis, the researchers worked with 255 virgin olive oil samples produced from the 2019/20 harvest by the Institute of Agrifood Research and Technology in Spain.

An expert tasting panel certified and recognized by the International Olive Council assessed and graded the samples, determining their pungency and

bitterness. The samples were then used to build and compare partial least squares regressions with the excitation-emission matrix. Regression analysis allowed researchers to determine which variables mattered most and which could be ignored.

The prediction of virgin olive oil bitterness and pungency was determined by measuring the excitation-emission matrix. "Errors in prediction were always close to the error of the sensory reference method," the researchers wrote.

According to the scientists, the excitation-emission fluorescence spectroscopy method applied in the study could correctly predict those crucial qualities of virgin olive oils.

"In view of the results, excitation-emission fluorescence spectroscopy has proven to be a suitable tool for bitterness and pungency prediction of virgin olive oils and could become the fit-for-purpose screening tool to support the panel," the researchers wrote.

They added that the method has several benefits, including its faster speed and lower cost than traditional panels and other methods used to determine olive oil organoleptic qualities.

However, the authors warned their method is not immediately deployable at scale.

"In spite of the satisfactory results, also considering the error of panel's performance, further research is needed in order to obtain robust regression models," they concluded. "Besides, a greater number of virgin olive oils samples with a wider range of the attributes of interest would be worth being included, as well as to carry out an external validation of future regression models."

Cited sources: Food Chemistry

OLIVE OIL-ORANGE SUGAR COOKIES

*Recipe By **Molly Marzalek-Kelly***

Who said sugar cookies had to be dull and boring? Not this version! Revamped with warm spices and kissed with orange zest, these cookies are delicate yet packed with flavour. Cardamom and turmeric are members of the same botanical family, and they pair beautifully with nutmeg and cloves. The subtle olive oil flavour makes these a sophisticated cookie, while the turmeric provides a pop of natural colour. The cookies' brightness and reimagined flavour all but guarantee that this recipe will be the star of the show.

PREP - 30 mins **BAKE** - 12 to 15 mins **TOTAL** - 3 hrs **YIELD** - 2 1/2 dozen 3" cookies

Ingredients

Cookies

- 1/2 cup (99g) olive oil
- 8 tablespoons (113g) unsalted butter, softened
- 1/2 cup (57g) confectioners' sugar, sifted if lumpy
- 1/2 cup (99g) granulated sugar
- zest (grated rind) of 1 large or 2 small oranges
- 1 large egg
- 2 teaspoons Pure Vanilla Extract
- 1/4 teaspoon nutmeg
- 1/4 teaspoon cloves
- 1/4 teaspoon cardamom
- 1/2 teaspoon turmeric
- 1/8 teaspoon baking soda
- 3/4 teaspoon baking powder
- 1/2 teaspoon salt
- 2 cups (240g) All-Purpose Flour

Coating

- 1/2 cup (99g) granulated sugar
- 1/4 teaspoon cardamom
- 1/4 teaspoon turmeric
- zest (grated rind) of 1 large or 2 small oranges

Instructions

1. **To make the dough:** In a large bowl, combine the oil, butter, sugars, and zest; beat until combined. (Avoid overmixing at this stage; if the butter is creamed until light and fluffy, the cookies will have a dome shape instead of being flat and crackly on the top.)
2. Add the egg, vanilla, and spices, beating until smooth.
3. Add the baking soda, baking powder, salt, and flour; mix until smooth. Cover the bowl and refrigerate the dough for at least 2 hours, until it's stiff enough to scoop easily and hold its shape; overnight is fine.
4. **To assemble and bake:** Preheat the oven to 350°F. Lightly grease two baking sheets, or line with parchment.
5. Put the sugar for coating in a bowl and combine with the spices. Rub the zest into the mixture, stirring until well blended.
6. Scoop the chilled dough by the tablespoonful (a level tablespoon cookie scoop works well here) and roll in the sugar to coat.
7. Place the balls of dough on the prepared baking sheets, leaving 1 1/2" between them.
8. Bake the cookies for 12 to 15 minutes, until the edges just begin to brown. Remove them from the oven and let them cool on the pan for 10 minutes before transferring to a rack to cool completely.
9. **Storage information:** Store cookies in an airtight container at room temperature for up to two weeks; freeze for longer storage.