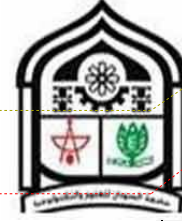




جامعة السودان للعلوم والتكنولوجيا

كلية التربية العلوم

قسم العلوم - كيمياء



بمعنوان:

إستخلاص زيت القرفة وتحديد خواصه الفيزيوكيميائية

Extraction of cinnamon oil and determine chemical and physical properties

بحث تكميلي لنيل درجة البكالوريوس

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الاهداء

المنر كعال عطاء أمام قديمها ، وكان دعائها سر نجاحي
البا تيلأر بال دنيا ألامنخلال عينيها ... السينو عالحنانا الذي لا يملا لعطاء ...
النالشمعة التي تثير ظلمة حياتي ...

(أمي وأبي العزيزين)

المنحبهم يجري في عروقي ويألهج بذكرهم فؤادي ...

(إخواننا وأخواتنا)

البا الذين قول لله بشر اقول لرسول الله صلنا الله عليه وسلم ((ان
الحو تفيالبحر و الطير فيالسماء ليصلو نعلم معلمالنا سالخير)) ...

(الأستاذ محمد الصادق ابراهيم)

المنعلمو ناحرو فامنذهبو كلمات مندر ...

(الاساتذة الأجلاء)

المنعر فنا كيف نجد همو علمنا الزمنا لأنضيعهم ...

(أصدقائنا الأعزاء)

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الشكر والتقدير

الشكر و الحمد و

الثناء لله بالعلمين فاطر السموات والارض الذين جعلوا الارض خضراء والسماء بناء او علم
ناما لمنكنا نعلمو هو بكشبيء عليم ، والصلاة والسلام على خير خلق الله النبي الامين ..

محمد بن عبد الله صلوات الله عليه وسلم .

نزجيز يشكرنا الجامعة السودا للعلوم والتكنولوجيا ...

اساتذة وموظفين عاملين .

و الشكر موصول للأسرة كلية التربية - قسم العلوم -

كيمياء سائلينا المولعز وجل أن يجعل هذا العمل يميز احساناتهم .

و الشكر كلالشكر الأستاذنا الجليل / محمد الصادق ابراهيم .. صاحب

التواضع الجم ... الذي تشرفنا جميعا بتعيينه مشرفا على مشروعنا ...

فجزاه الله عنا كل خير و احسان .

ولانفسا ننتقدمشكرنا للمنز سملنا طريقا لنجاحو غرسفينا معانيا الثقة بالنفس لأستاذ أم

يناالدينوا لأستاذ عاطف .

كما لا يفوتنا ان نتقدم بمعظم الشكر والتقدير لكلمن ساهم بمفكرة او نصيحة في سبيل انجاح

هذا البحث .

و لله الشكر من قبل و بعد ...

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مستخلص البحث

هدفت الدراسة لاستخلاص الزيت الطيار من نبات القرفة و دراسة خواصه الفيزيائية والكيميائية . بعد استخلاص الزيت العطري من القرفةبالاجهزة الكيميائية و اجراء تجارب الكثافة بجهاز قياس الكثافة (pycnometer) و معامل الانكسار بجهاز قياس معامل الانكسار (refractometer) ، و رقم اليود و رقم البيروكسيد و رقم التصبن بعمليات المعايرة العادية و كانت النتائج المتحصل عليها من معامل الانكسار واللون مطابق تماما في الدراسة بجامعة السودان بكلية العلوم اما بقية النتائج مقارنة بالدراسات السابقة مناسبة لدرجة كبيرة نسبة للظروف التي أجري فيها البحث .

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Abstract

This study aimed to extract the essential oil of cinnamon and to get the physical and chemical properties after the extraction of the essential oil with the chemical devices and conducting experiments of the density by the pycnometer , the refractive index by the refractometer , and the iodine number , peroxide number , saponification number by the ordinary calibration operation , the results obtained from the refractive index and the color were exactly matched with a study in sudan university coulage . but the rest of the results compared to the previous studies were extremely suitable due to conditions in wich the search was conducted.

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المقدمة

1 - 1 القرفة (الوصف النباتي)

هذا النبات اشجار كبيرة الحجم مستديمة الخضرة اطوالها تزيد عن 40 متراً وتفرعها قوى وغزير وقطر الساق يتراوح بين 2.00 - 0.5 متراً ولون لحاء فروعها بني محمر و الاوراق جلدية المظهر متقابلة الوضع بسيطة شكلها بيضاوي أو بيضاوي مستطيل عطرية و الاوراق الحديثة تلونها أخضر محمر والمكتملة أخضر غامق عند سطحها العلوي و فاتحة اللون عند سطحها السفلي و الازهار بيضاء أو بيضاء مخضرة صغيرة الحجم توجد في نورات راسمية عنقودية طرفياً و الثمار سوداء كروية الشكل صغيرة الحجم بداخلها العديد من البذور المستديرة الشكل و كل من الازهار و الثمار و الخشب و الجذور عطرية الرائحة . و الاوراق و الجذور و اللحاء تحتوي على الزيوت العطرية الطيارة الا أن كل منها يختلف عن الاخر في محتواه من المواد الفعالة الرئيسية أما مشروب القرفة فيستخدم فيه اللحاء كما أن زيت القرفة الشهير يعني به زيت لحاء و يطلق على القرفة المتداوله قرفة سيلان أو القرفة الهنديه و تبلغ الشجير تمام نضجها بعد ستة سنوات . تخرج من على الجذرفسائل عديده خضريه تقطع من الجذر و ينزع عنها القشور و تكشف الاجزاء الداخليه و الخارجيية و تجفف و تربط في حزم و تعدل للتصدير .



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شكل (1 - 1) لحاء القرفة

1 - 2 الإسم العلمي للقرفة

Cinnamon

باللاتينية القرفة السيلانية

Cinnamomum zeylaicum, L

القرفة الهندي

Cinnamomum cassia

العائلة القرفية الغازية

Famliy: (lauraceae)

1 - 3 الموطن الأصلي

تعتبر منطقة جنوب شرق آسيا الموطن الأصلي لهذا الجنس من النبات وتوجد أنواعه المختلفة تامة تقريباً في المناطق الإستوائية خاصة في افريقيا وبعض القارات الاخرى ، وأهم البلدان المنتجة لحاء زيت القرفة هي سيريلانكا و الصين وتانزانيا وكينيا وفورموزا والارجنتين وجذر الهند الشرقية . اتخذت القرفة السيلانية اسمها من موطنها الاصلي سيريلانكا والقرفة الصينية موطنها الاصلي هو الصين .

1 - 4 أنواع اشجار القرفة:

1-4-1 القرفة السيلاني C - zeylanicam

أشجارها كبيرة الحجم لغزارة نموها وطولها حوالي 12 متراً وفروعها سميكة و اققية الوضع والاوراق تخرج من الجانب العلوي للسوق و الفروع تقريباً متقابله الوضع . شكلها بيضاوي مستدير نوعاً واطوالها من 10 - 8 سم وعرضها من 6 - 5 سم وملساء الحافة والنصل الورقي به خمس عروق سميكة بارزة والازهار صغيره الحجم صفراء مخضرة أو بيضاء تقريباً ، اتخذت القرفة السيلانية اسمها من موطنها .

1-4-2 القرفة الهندية *C-obtusifolium*

تشبة النوع السابق (السيلائي) الا أن نصل أوراقها يحمل ثلاثة عروق سميكة بارز نوعاً

1 - 3-4 القرفة الكافوري *C- camphora*

يعتبر هذا النوع اطولها ارتفاعاً حيث يصل الي أكثر من 40مؤاً وسمك جذعه

حوالي 1- 2مؤاً والاوراق بيضيه مستطيله ورمحية تقريباً طولها بين 12 -

8سم وعرضها 4 - 2سم ونصلها يحتوي على ثلاثة عروق بارزه

والازهار متوسطة الحجم ولونها أبيض أو أصفر مخضر .

1-4-4 القرفة القرنفلية

وهي التي تسمى (الدار صيني) وهو تعبير فارسي معناه شجرة

الصين وبها زيوت طياره تبلغ (1.2 - 5.0) % تانين و راتنج وتحتوي

الزيوت الطيارة على سينمالدهيد 65 - 55% وتستخدم الدار صيني كماده للتخليه

وطارد للغازات .

1-4-5 القرفة الخشبية

وتسمى أيضاً (السليخة أو الدار صوص) وتكثر في الصين

والهند وسيلان وجاوه وسومطر ويحتوي هذا النوع من

القرفة على 1 - 2 % زيوت طياره بنسبة عالية من

سينمالدهيد تبلغ 75 - 85 % . ونسبة عاليه من المواد الراتنجية بالاضافه الي

وجود التانين . وتستعمل السليخة كماده للتخليه و ماده عطريه كما

أنها مقوية للقلب والمعدة إذا استعملت بمقادير مناسبة ولها تأثير قابض .

1 - 5 المحتويات الكيميائية للقرفة

تتشابه المحتويات الكيميائية في كل من القرفة السيلانية والقرفة الصينية حيث تحتوي على زيت طيار بنسبة 2% واهم مركبات هذا الزيت هو الدهيد القرفة المعروفة باسم (Cinnamaldehyde) والمركب يوجينول (Eugenol) ومركب سنمايل أسيت (Cinnamylacetate) وسنمايل الكحول (cinnamylalcohol) وحمض القرفة (Cinnamic acid) كما تحتوي على تربينات ثنائية واهم مركبات هذه المجموعة هي (Cinnzolanol) و (Cinnzeylanin) وتحتوي أيضاً على مجموعة أخرى تعرف باسم (Oligomeric Proanthocyanidins) بالإضافة إلى المحتويات من مواد هلامية (mucilage).

1 - 6 التربة المناسبة

يعتبر نبات القرفة من أهم النباتات الاستوائية وشبه الاستوائية المميز بارتفاع الحرارة والرطوبة الجوية على مدار العام وتوجد زراعتها في المناطق المعتدلة أو الباردة ، لأنها تتطلب درجة حرارة مرتفعة خلال موسم الصيف الطويل كما إنها لا تتحمل درجات الجفاف الطويل ، بل يستلزم نموها الخضري الري الطبيعي أو الصناعي كما تنمو بغزار فوق سفوح الجبال والتلال بشرط توفر الرطوبة الجوية والأمطار السنوية . وجودة زراعة القرفة في الأراضي الخفيفة لاسيما الصفراء والرملية لحسن تهويتها وجودة صرفها ، مع توفر مياه الآبار والأنهار المستخدمة في الري الصناعي .

1 - 7 مواعيد الزراعة

تزرع البذور خلال شهور السنة عددا شهري ديسمبر ويناير وعلى أن توضع في

مراقده داخل المشتل وعلى عمق 21 سم في مكان مظلل وتفضل لزراعة أثناء فصل الربيع ، وبعد أربعة أشهر تنقل البادرات وطولها 20-15 سم الي المكان المستديم بينما التكاثر الخضري يمكن نقل العقل بعد ستة أشهر من زراعتها وتكوين جذورها العرضية وفروعها الخضرية الحديثة الي الأرض الدائمة .

1- 8 طرق الزراعة

بعد حرث الأرض وتسوية التربة الزراعية تتخطط الأرض الي مصاطب عرضها 2.5 متراً وتحفر الحفر بع عمق 2040 x سم وتوضع الشتلات على مسافات من بعضها حوالي 3-3.5 متراً ثم تروى الأرض رياً صناعياً .

1- 9 التكاثر

تكاثر القرفة بالبذور وهي الشائعة والترقيد الأرضي والهوائي .

1- 10 الري

تروى الأشجار الحديثة مرة واحدة كل شهر عند زراعتها في الأرض الخفيفة والمناطق الجافة نوعاً ، بينما في المناطق الاستوائية الغزيرة الامطار لا تحتاج القرفة الي الري الصناعي ، بل تعتمد على الري الطبيعي من هطول الامطار .

1- 11 التسميد

تعتبر أشجار القرفة من النباتات التي تحتاج الي تغذية معدنية عالية ، نتيجة نموها الكبير و ارتفاعها الشاهق وتفرعها الغزير لذلك يجب وضع حوالي 30 متر مكعب من السماد البلدي القديم ، مع إضافة 200 كيلوجرام فوق كبريتات + 100 كيلوجرام كبريتات البوتاسيوم للفدان الواحد أثناء إعداد وتجهيز الأرض المستديمة لزراعة القرفة ، ويضاف لكل شجرة سنوياً بعد ذلك 15 كيلوجرام من السماد البلدي بالإضافة الي 100 كيلوجرام كبريتات الامونيوم + 150 كيلوجرام فوق كبريتات + 25 كيلوجرام كبريتات البوتاسيوم كسماد ، مع تكرار هذه الكمية خلال دورة حياة الأشجار بصفه منتظمة .

1 - 12 التقليم

من المستحسن تقليم الأشجار بعد عامين من الزراعة المستديمة للمحافظة على عدد من الأفرع الملساء (3-6 / شجرة) بحيث لا يزيد ارتفاعها عن 3.0 - 2.5 سم ثم يغطي معظمها بطبقة أو بكوم من التراب المبلل لتشجيع تكوين الأفرع ذات النمو القائم ، ثم تهذب بعد ذلك ، وهذه الطريقة يمكن تكرارها عند ما يصل طول الأفرع الرئيسية المتر وكثة 3.5 - 2 متر وسمك 3.5 - 2 سم

1 - 13 جمع المحصول والحصاد

يبدأ جمع المحصول الإنتاجي لكل من الأوراق و لحاء الساق عندما تبلغ الشجرة عمر يتراوح بين 5.0 - 4.5 سنوات تحمل فروعها سمكها تقريبا بين 1.5 - 3.0 سم قطر وأطولها حوالي 3-3.5 متراً أو عندما يبلغ عمرها 2 - 2.5 سنة . وطول الفروع 3 أمتار حيث تقطع هذه السوق الطويلة خلال سريان العصارة في الربيع لتسهيل نزع اللحاء ، والحصول على الأوراق والنموات الحديثة عالية الجودة في كمية الزيت و مركباته التريبتية ، وبعد عملية تقطع الفروع تنقل مباشرة الي أماكن معدة لتقطف الأوراق وقطع النموات الحديثة ، ونزع الأفرع الحديثة والرفيعة قبل الفروع السمكية من الأمهات بغية الحصول على اللحاء المرتفع الجودة والصنف وكمية الزيت عالية نوعاً و يجمع

لحاء في مناطق الإنتاج مرتين في العام حيث ينزع لحاء وتكشط الطبقة الداخلية والخارجية ثم تجفف الرقائق تجفيفاً طبيعياً حتى لا تفقد الكثير من محتواها من الزيت الطيار اذا ماتم تجفيفها صناعياً . وطريق إعداد لحاء تتلخص في شق طولي في قشرة الساق الطازجة بعد نزع أوراقها وفروعها الحديثة ثم ينزع اللحاء يدوياً . يجمع اللحاء ويكوم فوق بعض على هيئة حزم ويغطي بطبقة من البلاستيك ويوضع في الظلام لمدة يوم أو

أكثر للمساعدة على إزالة الصبغات الخضراء في بشرة الساق الخارجية وخاصة قشرتها ثم يقطع الي أجزاء طويلة تتراوح بين 20-15 سم بعد ذلك وتوضع اشربة اللحاء فوق بعضها طويلاً . وتبرم بقوة لتصبح على هيئة اسطوانية أو انبوييه طولها حوالى 50 - 40 سم وتترك لتجف طبيعياً في مكان مظلم وخلال فترة التجفيف يجب أن تبرم الانابيب الاسطوانية (الاقلام) برما دائرياً مع الضغط الخفيف عليها لزيادة صلابتها و اكسابها اللون البني الفاتح مع ظهور الرائحة العطرية المميزة للحاء القرفة . ثم تعبأ في كرتونات من الورق المقوى او اكياس من البلاستيك . والإنتاج السنوي من لحاء القرفة يتراوح بين 25- 20 كيلو جرام مادة جافة للشجرة الواحده وسمك كل قطعة يتراوح بين 0.3 - 0.5 سم وتزداد هذه الكمية كلما تقدمت الأشجار في العمر حيث يتراوح بين 90 - 60 كيلو جرام بعد 9 - 6 سنوات ويقل الإنتاج بعد 12- 10 سنوات من عمر الشجرة ويجب اقتلاعها وزرعها في أماكن أخرى جديده . وقد تباع على هيئة شرائح وهي عادة عبارة عن الكسر الناتج أثناء عملية تقشير وتجهيز العيدان أو تباع على هيئة مسحوق يتم إستخلاص الزيت العطري من الأوراق الفروع الحديثة و لحاء السوق او الجذور بإستعمال أجهزة التقطير البخار المباشر ويبلغ إنتاج الزيت العطري 9 - 8 كيلو جرام من الأوراق والفروع الحديثة الطازجة وحوالي 3- 2 كيلو جرام من لحاء الناتج من سوق القرفة المزروع في الفدان (2).

1- 14 القرفة في الطب القديم

وصف القرفة في الطب القديم بأنها مسخنة ومدررة للبول مليئة بتجلو البصر تقلع البثور والكلف واذا خلطت بالعسل تنفع من السعال المزمن والنزلات ووجع الجنب والكلى وعسر البول وتحلل البلغم وتحسن الذهن وتلطف الأغذية الغليظة وتساعد على الهضم وتفيد في علاج الربو و الزكام وتقرح القلب وتنقي الصدر وتفتح سدد الكبد وتقوي المعدة وتفيد في علاج أمراض الرحم مع صفار البيض .

لقد دخلت القرفة مصر مع رحلة الملكة حتشبسوت
الي الصومال عام 1475 - 1495 قبل الميلاد وجاء اسم القرفة ضمن
الكثير من الوصفات العلاجية في البرديان الطبية الفرعونية وللقرفة تاريخ
طويل من الإستعمال في الهند أول ما إستخدمت طبياً واجزاء من
أوروبا منذ نحو سنة 500 قبل الميلاد وكانت تستخدم في ذلك
الزمان لعلاج الزكام والإنفلونزا والمشكلات الهضمية ولا تزال تستخدم حتى
اليوم بنفس الطريقة

مقالها الطبيب اليوناني ديسكوريدس عن القرفة ((يستخدم زيت القرفة
دهاناً لعلاج الكلف والنمش ومع الخل للثور وهو مفيد لعلاج القوباء
والقروح يؤخذ شراباً لعلاج السعال ويبقى الصدر ويقوي المعده ويدر البول
ويستخدم مع التين لبخات وضمادات ضد لسع العقارب)) .

وقال أبو بكر الرازي ((مغلي القرفة بالزنجبيل نافع ضد أمراض البرد
والزكام)) .

كما قال ابن بيطار ((تمزج القرفة مع مسحوق المصطكي لعلاج الربو
والفواق)) . وأطلق عليها علماء التغذية في فرنسا إسم صديق الجهاز الهضمي .

وقال ابن سينا ((قوة القرفة مسخنة مفتحة تصلح لكل عفونة ،
غاية في اللطافة ، جاذبة وتصلح لكل قوة فاسده . ودهن
القرفة محلل حار جداً مذيّب ، يوضع على الكلف والنمش صالح للقوابي والقروح
، ودهن القرفة عجيب في الرعشة ، ينفع من الزكام ، يبقي الدماغ
وهو من جملة ما يسكن وجع الأذن . وينفع من الغشاوة والظلمة أكلا
وكحلاً ، ويذهب الرطوبة الغليظة من العين من السعال وينفع من السعال
ويبقى ما في الصدر ، ويفتح سد الكبد ويقويها ، ويقوي المعده ويجفف
رطوبتها وينفع من الإستسقاء ، وينفع من أوجاع الرحم والكلى وأورامها ويدر البول
)) .

1 - 15 القرفة في الطب الحديث

من الفوائد والإستخدامات الطبية تستخدم القرفة لمعالجة الامراض التالية

1 - 15 - 1 العقم

لقد إستخدام اليونانيون والإيرفدلو العسل لكثير من السنين في الدواء لتقوية المنى عند الرجال فإذا أخذ الرجل العقيم معلقين من العسل قبل النوم فإنه يشفى من العقم . فمن دول الصين واليابان ودول الشرق الاقصى لعدة قرون نجد ان النساء التي لاتلدن يأخذن مسحوق القرفة . فالمرأه العقيمة من الممكن أن تتناول قدر قبضة من مسحوق القرفة في نصف معلقة من العسل وتمضغ به بين اللتين على مدار اليوم وعلية يختلط ببطء مع اللعاب ويدخل الجسم .

1 - 15 - 2 السرطان

قد أثبتت الأبحاث الحديثة في اليابان واستراليا أن المراحل المتقدمة من سرطان المعدة والعظم قد أشفيت بنجاح . فعلى المرضى الذين يعانون من هذه الأنواع من السرطان أن يتناول يوميا معلقة من العسل مع معلقة من مسحوق القرفة لمدة ثلاثة شهور يوميا .

1-15-3 تقليل الوزن

إن تناول العسل مع مسحوق القرفة مغلية في كأس من الماء كل صباح يوميا بنصف ساعة قبل الإفطار والمعدة فارغة وفي الليل قبل النوم بانتظام يقلل الوزن على نحو كبير حتى هؤلاء الأشخاص ذو الجسم البدين . وأيضا تناول هذا الخليط بانتظام فإنه يمنع الدهون من التراكم في الجسم حتى ولو كان الشخص يأكل وجبة بها سعرات حرارية عالية .

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1-15-4 الفوائد والإستخدامات الطبية

توفر القرفة ((الدارصين)) 38% من حاجة الجسم من المنجيز و 15% من الحديد و 15% من الالياف و 6% من الكالسيوم وذلك حسب ما ذكر في مواقع متخصصة في اخبار الصحة⁽¹⁾

1-16 المعلومات الغذائية

يحتوي كل 100g من بهارات القرفة بحسب وزارة الزراعة الامريكية على المعلومات الغذائية التالية:

247 السعرات الحرارية

1.24 الدهون

0.34 الدهون المشبعة

80.59 الكاربوهيدرات

53.1 الالياف

3.99 البروتينات

5.0 الكولسترول⁽³⁾

1-17 الزيوت العطرية أو الزيوت الطيارة:

هي مستخلصات زيتية سهلة التطاير يحصل عليها من النباتات أو أجزاء منها، تتميز بأن لها رائحتها الفواحة مثل زيت القرنفل على العكس من الزيوت الدهنية فإن الزيوت العطرية تنبخر بشكل كامل ولا تترك أي أثر خلفها. تتكون الزيوت العطرية من العديد من المكونات المختلفة، وهي منحلّة في الدهون على الرغم من أنها لا تحوي أي مكونات دهنية. انحلالية هذه الزيوت في الماء ضعيفة، وتشكل قطير اسائل تطفو على السطح لأنها أقل كثافة من الماء.

تمثل الزيوت العطرية المواد الرئيسية المسؤولة عن الرائحة المتميزة للنباتات،
وهذا لمكوناتها الطيارة ولها القدرة على التبخر والتطاير تحت الظروف العادية.

وتتميز الزيوت العطرية بسهولة فصلها عن الأعضاء النباتية الحاملة لها بواسطة
طرق التقطير والاستخلاص المختلفة.

1-17-1 طريقة استخلاص الزيوت العطرية:

لعب العرب منذ القدم دورا هاما في تطوير طرق الاستخلاص والتحضير العطرية
بواسطة التبخير والتكثيف والتقطير على أيدي علماء كبار أمثال ابن سينا استخراجها
بطريقة نقية ومركزة، وكذلك جابر ابن حيان وهو أول من فصل مادة الكحول عن
طريق التقطير، ثم تطور الأمر لاحقا لتعدد طرق استخلاص الزيت العطري، ومن
أهم هذه الطرق:

1-1-17-1. الاستخلاص بالتقطير.

2-1-17-1. الاستخلاص بالمذيبات العضوية.

3-1-17-1. الاستخلاص بالعصر الهيدروليكي.

4-1-17-1. الاستخلاص بالتحلل الانزيمي.⁽⁶⁾

2-17-1 الصفات الطبيعية للزيوت العطرية

ويطلق عليها اسم الثوابت الطبيعية أو الفيزيائية التي يمكن سردها في الآتي:

1-2-17-1 الرائحة

الغالبية العظمى من الزيوت الطيارة تتميز برائحتها العطرة ونكهتها العذبة ويعزى ذلك
إلى احتوائها على بعض المركبات ذات الأوزان الجزيئية الصغيرة والمتطايرة سريعاً في
درجات الحرارة العادية للهواء الجوي مثل الألدهيدات والكحوليات الكيتونات والإسترات
وخلافة من المركبات الألكسجينية.

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1-17-2-2 اللون

تختلف الزيوت الطيارة في درجة الوانها الطبيعية بعد استخلاصها إما أن تكون عديمة اللون أو صفراء باهتة ، أو صفراء خفيفة كما في الزيت الناتج من عشب النعناع الفلفلي أو صفراء مخضرة كما في الزيت الناتج من عشب النعناع الياباني .

1-17-2-3 التطاير:

الغالبية العظمى للزيوت الطيارة والمستخلصة تتبخر أو تتطاير تماماً تحت الظروف الطبيعية والعتادية عدداً قليلاً منها مثل زيت الليمون وذلك لاحتوائه على بعض المواد غير المتطايرة كالمواد الصمغية.

1-17-2-4 الإذابة:

جميع الزيوت تذوب في الماء، إلا أنها تذوب في الكحول بنسبة (95%).

1-17-2-5 الكثافة النوعية

الكثافة النوعية للزيت العطري تتوقف على النوع والمصدر النباتي تبعاً لمكوناته التربينية إذا كانت هذه الطبيعية أقل من الواحد الصحيح كما في غالبية الزيوت الطيارة ظراً لانخفاض كثافتها عن كثافة الماء مسيبي في حاله الأولى الطفوفوق سطح الماء لوجود كميات مرتفعة من المركبات التربينية والآخر بإلإيفاتية للزيت العطري ، وإذا كانت الكثافة النوعية أكبر من الواحد الصحيح أي أكبر من كثافة الماء مسيبي في ذلك التي ترسيب الزيت العطري تحت سطح الماء لوجود كميات عالية من المركبات التربينية عديدة الحلقات ومختلفة الصيغة الكيميائية لذلك فإن المدى

يتراوح بين 1.01 – 0.8g/ml

1-17-2-6 معامل الإنكسار

من الثابت علمياً أن قيمة معامل الانكسار للماء النقي تساوي 1.333 عند درجة حرارة 20 درجة مئوية في حين الزيت الطيارة تنصف بزيادة معاملها الإنكساري الذي يتراوح من 1.45 – 1.69 .

1 – 18 – الصفات الكيميائية للزيوت العطرية

من أهم الصفات الكيميائية للزيوت العطرية يمكن تلخيص كل منها على النحو التالي:

1 – 18 – 1 رقم التصبن

رقم التصبن عبارة عن المليجرامات من هيدروكسيد البوتاسيوم اللازمة لمعادلة الأحماض الدهنية الناتجة من تحلل جرام واحد من المادة .
وتتميز الزيوت العطرية بإحتوائها على بعض الأحماض الدهنية منخفضة المستوى يعكس الزيوت الثابتة مرتفعة النسبة في معدلات هذه الأحماض تنصف الزيوت العطرية بانخفاض رقم التصبن .

1 – 18 – 2 رقم البيروكسيد

هو عبارة عن مقياس للبيروكسيدات المتكونة للزيت أو الدهن بفعلاً للأكسده ويعبر عنه في صورة ملي مكافئ من البيروكسيدات لكل كيلوجرام من العينة .

1 – 18 – 3 رقم اليود

هو عبارة عن كمية اليود بالوزن التي يمتصها 100 جرام من الزيت أو الدهن ويشير هذا الرقم إلى كمية الروابط الزوجية غير المشبعة بالمادة الزيتية ، أي بمعنى عدد جرامات اليود اللازمة لتشبع الروابط الزوجية غير المشبعة لتلك المادة أو عدد جرامات اليود اللازمة لتشبع الروابط الزوجية في 100 جرام⁽⁵⁾

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1 - 19 الدراسات السابقة

أجرى بتدراسة في جامعة السودان للعلوم والتكنولوجيا كلية العلوم قسم الكيمياء في استخراج صينالفة رفة من عينة القرفة و اجراء التجار بالكيمياء الفيزيائية لها وكانت النتائج الآتي :

التجربة	النتيجة
نسبة الزيت	1.1%
الكثافة النوعية	0.9097g/ml
معامل الانكسار	1.54
رقم البيروكسيد	1.5 meq/mg

(7)

و كذلك في دراسة بعنوان:

Extraction of essential oil and its applications

عام 2006م التي أجريتها في المعهد القومي للعلوم والتكنولوجيا في جامعة السودان للعلوم والتكنولوجيا في استخراج صينالفة رفة من عينة القرفة و اجراء التجار بالكيمياء الفيزيائية لها وكانت النتائج الآتي :

التجربة	النتيجة
نسبة الزيت	%0.75
الكثافة النوعية	0.921 – 0.923 g/ml
اللون	اصفر محمر

(10)

ودراسة اخري بعنوان :

Fatty Acid Analysis of Cinnamomum Zeylanicum (Dalchini)

Bark fatty oil

في جريدة UITS العلمية و كانت نتائج التجارب الكيميائية لزيت القرفة كالآتي:

النتيجة	التجربة
60.33 g I ₂ /100 g oil	رقم اليود
50.54 meq/kg	رقم البيروكسيد
110.6 mg KOH/gm oil	رقم التصبن

(11)

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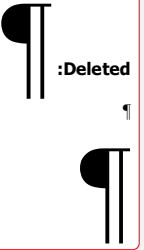
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الجزء العملي

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الجزء العملي

2- 1 جمع العينة

تم الحصول على عينه القرفة من منطقة الخرطوم محلية بحري السوق المحلي وتم وزن 3 كيلوجرام من العينة ثم تم استخلاص الزيت العطري منها وفصل الشوائب الموجودة فيها.

2-2 طريقة استخلاص الزيت من نبات القرفة

تم غمر 3 كيلومن القرفة غير المسحونة في الماء داخل وعاء ويتم رفع درجة حرارة الوعاء الى أن تصل الماء الى درجة الغليان . وعملية تقطير الماء وفصلها تتم تحت الضغط لتخفيض درجة الحرارة التي تتم فيها عملية التبخير والتكثيف لأقل من 100 درجة مئوية . وفيها يتصاعد بخار الماء محملاً بخار الزيت العطري داخل جهاز التقطير ويتم فصل الزيت العطري عن الماء بقمع الفصل ليتجمع الزيت العطري من خلال الصمام واخيراً يجفف الزيت العطري باستخدام كبريتات الصوديوم اللامائية لتسهيل عملية فصل الزيت العطري من الماء .

2-3 دراسة الخواص الكيميائية

2- 3- 1 تقدير رقم البيروكسيد

وزن 1.012 g من زيت القرفة في ورق مخروطي سعة 250 مل ثم أضيف إليه 15 مل من خليط حمض الخليك والكلورفور محركياً ثم أضيف إليه 2 مل من يوديد البوتاسيم (10 %) رج لمدة دقيقة ثم أضيف إليه 30 مل من الماء المقطر وعويرضه لمحلول ثيوكبريتات الصوديوم القياسي (0.02 N) الي أن اصبح اللون أصفر فاتح ثم أضيف دليل النشا ثم عوير الي أن اختفى اللون الأزرق وسجل الحجم وكررت نفس الخطوات اعلاملاً لاختبار الضابط (Blank) .

2 - 3 - 2 تقدير رقم اليود

وزن 1.005 جرام من زيت القرفة ثم أضيف اليه 10 مل من محلول ثنائي كلورميثان ثم أضيف 20 مل من المحلول المحضر بخليط من (80 مل من حمض الخليك الثلجي + 203 مل من أيودين احادي الكلوريد) الي الزيت ثم وضع في الظلام لمدة 30 دقيقة ثم أضيف 15 مل من يوديد البوتاسيوم (10%) و 100 مل من الماء المقطر و عويز ضد محلول ثيوكبريتات الصوديوم (0.02N) باستخدام دليل النشأ حتى نقطة النهاية كررت نفس الخطوات اعلاه للمحلول الضابط (Blank) .

2 - 3 - 3 تقدير رقم التصبن

وزن واحد جرام من زيت القرفة ووضع في دورق دائري ثم أضيف حوالي 25 مل من محلول هيدروكسيد البوتاسيوم الكحولي الي الزيت ثم ثبت المكثف العاكس على الدورق و غلي باستمرار لمدة ساعة ثم أضيف نقطتين من دليل الفينونفتالين ثم عويز ضد محلول حمض الهيدروكلوريك (2M) حتى الوصول إلي نقطة النهاية كررت نفس الخطوات اعلاه لإختبار الضابط (Blank) جدول يوضح بعض النتائج للخواص الكيميائية لزيت القرفة:

التجربة	النتيجة
رقم اليود	57 I ₂ g/100 g oil
رقم البيروكسيد	57 Meq/kg
رقم التصبن	100.98 mg KOH/gm oil

2 - 3 - 4 قياس معامل الإنكسار Refractive index

نظف المنشور الزجاجي قبل إجراء الاختيار بواسطة قطعة قطن مبللة بالاستون ثم جفف تماماً وضبط درجة حرارة الجهاز في C 32.8 ثم ضبط الجهاز باستخدام الماء المقطر والذي معامل إنكسار 1.333 ثم بعد ذلك وضعت قطرة من الزيت ووضعت على المنشور السفلى وطبق عليها المنشور 22 العلوى ونظر من خلال العدسة وحرك المفتاح حتى الخطفي منتصف التقاطع واختفاء الوان الطيف تماماً ثم نظر من خلال العدسة وقرأ معامل الإنكسار للزيت .

2- 3- 5 قياس الكثافة النوعية

نظفت زجاجة الكثافة (5ml) وجففت تماماً ثم وزنت بدقة ملئت الزجاجه بالماء المقطر وأغلقت بإحكام وجففت من الخارج باستخدام منديل ورق ثموزنت وأفرغت الزجاجه وجففت في درجة حرارة الغرفة ثم ملئت بعينة الزيت ثم جففت من الخارج ووزنت وسجلت الأوزان المختلفة . وبقسمة وزن الزيت بالجرام على وزن الماء المقطر بالجرام تم الحصول على كثافة الزيت .

جدول يوضح بعض النتائج لخواص الفيزيائية لزييت القرفة :

التجربة	النتيجة
معامل الانكسار	1.598
الكثافة النوعية	0.93 g/ml

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1-3 المناقشة:

بعد استخلاص زيت القرفة و إجراء بعض التجارب بالخواص الكيميائية والفيزيائية ووجد أن نسبة الزيت في القرفة تساوي (0.85%) وهي أكثر بقليل من مدى نسبة الزيت الموجودة في الدراسة بالمعهد القومي للتكنولوجيا بماليزيا (0.75%) و أقل قليل من نسبته بالدراسة في كلية العلوم بجامعة السودان للعلوم و التكنولوجيا (1.1%). ووجد أن كثافة زيت القرفة تساوي (0.93g/ml) وهي أكثر بقليل من مدى الكثافة الموجودة في الدراسة بالمعهد القومي للتكنولوجيا بماليزيا (0.923 – 0.921 g/ml) ووجد أن معامل إنكسار هيساوي (1.598) وهو مطابق للمدى الموجود في الدراسة بجامعة السودان بكلية العلوم (1.5). ولون زيت القرفة أصفر محمر و هذا مطابق للدراسة بجامعة السودان بكلية العلوم و الدراسة بالمعهد القومي للتكنولوجيا بماليزيا. ووجد أن رقم اليود لزيت القرفة يساوي (57 I₂ g / 100 g oil) وهو أقل من رقم اليود بالدراسة fatty acid analysis of cinnamomum zeylanicum Dalchini bark fatty oil الذي يساوي (60.33 I₂ g / 100 g oil). ورقم البيروكسيد لزيت القرفة يساوي (57 meq/kg) وهو أكثر من قيمة في الدراسة fatty acid analysis of cinnamomum zeylanicum (Dalchini) bark fatty oil التي تساوي (50.54 meq/kg). أما رقم التصبن لزيت القرفة فيساوي (100.98 mg KOH/gm oil) وهو أقل من قيمة في الدراسة fatty acid analysis of cinnamomum zeylanicum (Dalchini) bark fatty oil التي تساوي (110.6 mg KOH/gm oil).

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2-3 التوصيات

1. استخلاص زيت القرفة من لحاء اشجار هاو من ثم تقدير بعض العناصر الكيميائية فيه .

2. استخلاص المادة الفعالة (سينماليهيد) فيزيو القرفة .

3- استخلاص زيت القرفة من الاوراق ودراسة خواصه الكيميائية والفيزيائية .

3-3 الخلاصة

بعد استخلاص الزيت من نبات القرفة بتقنية التقطير بالماء و البخار و قد تم استخدام مكبر يتا الصوديوم

مالا مائية كمادة مخلصة لتسهيل عملية فصل الزيت عن الماء و وجد ان نسبة الزيت المستخلص

(0.85%) . كما وجد من نتائج قياس الخواص الفيزيوكيميائية للزيت الطيار المستخلص ان الكثافة

(0.93 g/cm³) باستخدام جهاز قياس الكثافة (pycnometer) ومعامل الانكسار

(1.598) باستخدام جهاز قياس معامل الانكسار (refractometer)

واللون أصفر محمر . رقم التصبن (100.98 mg KOH/gm oil) و رقم

البيروكسيد (57 meq/kg) ، رقم اليود (57 I₂ g / 100 g oil) بالمعايير العادية

و النتائج المتحصل عليها من معامل الانكسار واللون مطابقة تماما في دراسة بجامعة

السودان بكلية العلوم اما بقية النتائج المتحصل عليها مقارنة بالدراسات السابقة

فهي مناسبة لدرجة كبيرة نسبة للظروف التي أجريت فيها البحث .

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المراجع:

- 1- د. محمد السعدي - خفايا واسرار النباتات الطبية والعقاقير في الطب القديم والحديث - الطبعة العربية - المركز القومي للبحوث - القاهرة - 2006م - ص 93 - ص 104.
- 2- علي الدجوى- موسوعة إنتاج النباتات الطبية - الكتاب الثاني - الطبعة الأولى مكتبة متبولي - ميدان طلعت حرب - 1996 م - ص 80 - ص 126.
- 3- د. الشحات نصر أبو زيد - النباتات الطبية والعطرية ومنتجاتها الزراعية والدوائية - الطبعة الثانية - 1992 م.
- 4- د. الشحات نصر أبو زيد استاذ فسيولوجيا و انتاج النباتات الطبية والعطرية - فسيولوجيا وكيمياء الزيوت الطيارة - دار المريخ للنشر والتوزيع - الرياض - المملكة العربية السعودية - 1994م
- 5- د. الشحات نصر أبو زيد - المرجع السابق - الفصل السابع - الصفات العامة للزيوت العطرية - ص 187 - ص 194.
- 6- د. الشحات نصر أبو زيد - المرجع السابق - الفصل الثامن - الاستحداث والتقني في فصل الزيت العطري للبحوث العلمي - ص 20.
- 7- د. جمال الطيب بشر بالغزالي وآخرون - النباتات الطبية المتداولة في ولاية الخرطوم - 1998م
- 8- الخوارزمي - مفاتيح العلوم - دار القاهرة للنشر والتوزيع - القاهرة - مصر - 1996م
- 9- ابن بيطار المالقي - الجامع لمفردات الأدوية والأغذية - 1995م.

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(Cinnamomum Zeylanicum) – ORIENTAL JOURNAL OF CHEMISTRY– 2014 ▲

▲ 11. – Mohammed jamil etc fatty acid analysis of cinnamomum zeylanicum (dalchini) bark fatty oil –UITS journal – 2002.

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