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Abstract

The study was conducted to investigate the effect of season (Summer, Winter), fish species and salt concentration level on chemical composition of salted -fermented fish species (*Labeo spp*, local name ; **Debs** , *Schilbe spp* local name **Shilbaya**) comparing with popular fassiekh fish species (*Hydrocynus spp*, local name, **Kass**), in order to help in reducing the over fishing and use of *Alestes* and *Hydrocynus spp* in fassiekh production.

Assorted of 12 Kgs of each of three fassiekh fish species group, consisting of *Hydrocynus spp*; (25 -30 cm in total length), *Labeo spp*

(20 -25 cm in total length) and *Schilbe sp.* (17 -22 cm in total length) were collected from Jebel Aulia Dam. These samples were processed in Khartoum Fishing Company. The samples were divided in to 3 batches. Each batch was treated with different common salt concentration levels (20 %, 25%, 33% and 0% as control(Fresh)).

The findings of the present study clearly revealed that, the chemical composition of fresh salted-fermented product fish species showed that, there were no significant differences between *Labeo* and *Hydrocynus spp* while *Schilbe sp.* recorded significantly higher in fat content.

The effect of salt concentration levels on studied species result an increase in crude protein and ash content than fresh fish. The highest salt level (33%) resulted in significantly lower moisture content, and produced well-salted-fermented product with reasonably long storage shelf life.

The effect of different season (Summer, Winter) production time on salted-fermented product showed that, there were no significant differences in final product of wet-salted-fermented fish species chemically. But there were differences in the duration of processing time, depending on ambient temperatures.

The organoleptic test showed that, no significant difference among all studied fassiekh fish species.

From this study we could conclud that, the best fish species for production of fassiekh product was the *Labeo sp.* at winter, the second and third was *Hydrocynus sp.* and *Schilbe sp.* respectively at the same salt concentration level treatment and season.

خلاصة الأطروحة

أجريت هذه الدراسة لتقييم أثر الموسم (صيف، شتاء) ، نوع السمك و مستوى تركيز الملح على التركيب الكيميائي لثلاثة أنواع من الاسماك التجارية (*Labeo spp* الاسم المحلى دبس، *Schilbe spp* الاسم المحلى شلباية ، *Hydrocynus spp* الاسم المحلى الكاس) وذلك بهدف تخفيف استنزاف أسماك الكاس و الكوارة .
تتكون العينة من 12 كيلو غرام من كل نوع من انواع الاسماك الثلاثة :

(الكاس (25-30 سنتيمتر الطول الكلى)، الدبس (20-25 سنتيمتر الطول الكلى) والشلبايه (17-22 سنتيمتر الطول الكلى)) جمعت من منطقة خزان جبل اولياء، ثم نقلت الى شركة الخرطوم لصيد الاسماك. العينات قسمت الى 3 مجموعات وتمت معالجتها بالملح الاعتيادى (الشمسى) بنسب مؤويه مختلفه (20%، 25%، 33%) من وزن كل مجموعة.

أظهرت نتائج الدراسة الحالية، بشكل واضح بأن التركيب الكيمياءى للأسماك الطازجة ليس لديها اختلافات معنوية ماعدا سمكة الشلبايه حيث كانت نسبة الدهون عاليه. كما أوضحت الدراسة بأن اختلاف مستوى تركيز الملح على الأنواع المدروسة قد أثر عليها ونتج زيادة فى البروتين الخام والمحتوى الرمادى خاصه عند مستوى الملح (33%) كما أدى الى نقصان محتوى الرطوبة مما يزيد من مدة خزن هذا المنتج. كذلك أوضحت الدراسة بأن صناعة المنتج فى فصلى الصيف والشتاء ليس له تأثير معنوى بالرغم من أن صناعة الفسيخ تعتمد على درجات الحرارة.

أشار التقييم الحسى الى عدم وجود اختلافات معنوية حيث سجلت سمكة الدبس درجات تفضيلية أكثر من بقية الاسماك فى فصل الشتاء ثم تلتها سمكة الكاس ومن ثم سمكة الشلبايه.