0.98 ± 0.15, 1.22 ± 0.70 & 1.16 ± 0.18 mg/ml respectively. Then, Adiponectin levels in chicken, beef and lamb were 150 ± 4.5 ng/ml, 24 ± 0.5 μg/ml and 37 ± 0.98 ng/ml respectively. Conclusions: The adiponectin protein from adipose tissues wasted in meat sources may be a useful enrichment sources for a health conditions.

Keywords: Adipose tissue; Protein; Adiponectin; BCA kit; ELISA Assay.

XP03. HISTOLOGICAL FEATURES OF DATES (PHOENIX DACTYLIFERA) AND MORPHINE ON RAT TESTIS

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Drug abuse such as chronic morphine intake can cause sexual dysfunction in men. Medicinal plants such as dates (Phoenix dactylifera) have massive health benefit in improving male infertility. Various studies showed that morphine has negative effects on male infertility and Phoenix dactylifera (dates) could cure male infertility. This study was carried out to investigate the possible protective role of dates on the histological features of morphine induced rat testis. Adult male Sprague dawley rats age 7-9 weeks old, 200-250g body weight (BW) were randomly divided into: Group 1 was force-fed with distilled water, 1ml/kg BW for 35 days, Group 2 was intramuscularly (im) injected with Morphine, 20mg/kg BW for 7 days followed by distilled water for 28 days, Group 3 was force-fed with distilled water for 7 days followed by crude P. dactylifera extract, 200mg/kg for 28 days and Group 4 was injected (im) with morphine, 20mg/kg BW for 7 days followed by force-fed of crude P. dactylifera extract, 200mg/kg for 28 days. Rats were sacrificed on day 36. The testis was abstracted, fixed in Davidson solution for two days and stored in Formalin solution prior to histological processes. The histology of the testicular tissues in group 2 rats showed degeneration and disorganisation of the cellular layers lining the seminiferous tubules (ST) with a decrease in number of the germ cells and less spermatooza were found in the lumen. Whereas, the ST in group 3 showed thicker layer of cellular linings with higher numbers of germ cells and spermatooza in the lumen. Interestingly, the administration of crude P. dactylifera after the morphine in Group 4 showed improvement in the histological features of rat testis as compared to Group 2. In conclusion, supplementation of dates could be useful in combating the detrimental effects of morphine on male reproductive system.

Keywords: Morphine; dates; Phoenix dactylifera; testis; rat.

XP04. ROLE OF NIGELLA SATIVA OIL ON ANDROGEN RECEPTOR AND ULTRASTRUCTURAL FEATURES OF NICOTINE TREATED MALE RATS SEMINAL VESICLE AND PROSTATE GLAND

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Nicotine is claimed to increase free radicals, DNA damaged and lipid peroxidation in male reproductive organs. Nigella sativa has been identified to improve the adverse effects due to
nicotine intake. This study was conducted to evaluate potential protective effects of *Nigella sativa* oil against adverse effects of nicotine on the androgen receptors (AR) and ultrastructural changes in the rat seminal vesicle and prostate gland. Eighteen Sprague Dawley male rats age 7-9 weeks old, 200-250g body weight (BW) were randomly divided into: Group 1, Nicotine (N) was intramuscularly (LM) injected with nicotine, 0.5mg/100g body weight; Group 2, *Nigella sativa* (NS) was force fed with *Nigella sativa*, 6.0μl/100g body weight and Group 3, Nicotine-*Nigella sativa* (NNS) was co-administered with 0.5mg/100g BW of nicotine and 6.0μl/100g BW of *Nigella sativa*. The seminal vesicles and prostate gland were abstracted after 100 days of treatment. The organs were processed for ultrastructural features observation and androgen receptor detection. The epithelial cells in both prostate gland and seminal vesicle of the nicotine group showed weak brown intensity as compared to the strong brown intensity of epithelial cells in the *Nigella sativa* and nicotine-*Nigella sativa*. In the prostate gland and seminal vesicle, presence of glandular alternation which was characterized by cellular atrophy was observed in the nicotine group. This study suggested that administration of *Nigella sativa* might have ameliorating effects on both the prostate gland and seminal vesicle structures and functions of the nicotine-treated rats.

**Keywords:** Nicotine; *Nigella sativa*; androgen receptor; ultrastructure; seminal vesicle; prostate gland

**XP06. ENHANCED MICROBIAL DEGRADATION OF POLYCHLORINATED BIPHENYLs**

*BY Burkholderia xenovorans LB400 IN LANDFILL LEACHATE*

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Polychlorinated biphenyls (PCBs) is one of the most dangerous human-made compounds in the list of World Health Organization. PCBs are chlorinated aromatic compounds of which there are 209 theoretically possible congeners ever known. They are very stable in the environment, even to the extreme temperature and pressure. Although the production has been terminated since 1970's, PCBs still continue to persist in the environment especially in the dump site and disposal area. An inexpensive and effective way to treat PCBs contamination is through bioremediation using Burkholderia xenovorans LB400. However, the control and optimization of bioremediation process is a complex system. Thus, the aim of this study is to optimize bioremediation process of Burkholderia xenovorans LB400 by manipulating culture condition such as concentration of substrate, pH of media and temperature of incubation in the presence of landfill leachate. The remaining analyte was extracted using ENVI-18 SPE column from SUPELCO prior to quantification analysis by GC-MS. The bacteria did show significant difference in growth rate when supplemented with 10 ppm and 15 ppm of PCBs with growth rate ranging from 0.819-0.830μ. The maximum growth rate of the bacteria was recorded in pH6 with maximum cell numbers more than 20000 X 105 cfu/mL. Furthermore, optimization with different incubation temperature did show high growth rate at 30 °C. This may suggest that the culture conditions play an important role in biodegradation process to be more efficient. By using these conditions, biodegradation of PCBs by Burkholderia xenovorans LB400 will become more effective, economical and environmental friendly.

**Keywords:** Burkholderia xenovorans LB400; biodegradation; polychlorinated biphenyls; growth rate

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