2022

SHRI LAL BAHADUR SHASTRI
DEGREE COLLEGE GONDA

DEPARTMENT OF CHEMISTRY

A One Day Seminar
Under Intellectual Property Rights
Organized
Department of Chemistry and IQAC
On

Chemistry of Food

(February 13, 2022)

[SEMINAR REPORT]

SHRI LAL BAHADUR SHASTRI DEGREE COLLEGE, GONDA

श्री लाल बहादुर शास्त्री डिग्री कॉलेज, गोण्डा

AN AFFILIATED COLLEGE OF DR RAMMANOHAR LOHIA AVADH UNIVERSITY, AYODHYA,(U.P)

Department of Chemistry

One day seminar under intellectual property rights (13 Feb 2022) On Chemistry of Food

ORGANIZED BY

DEPARTMENT OF CHEMISTRY AND IQAC SLBSDC, GONDA

Inaugural Lecture

By

Dr. P. Mishra

Head, Department of Chemistry

SLBSDC GONDA

(10.00 am to 11.00 am)

High Tea- (11.00 am to 11.30 am)

Keynote Speakers

Lecture 1: The Biochemistry of Food
(11.30 am to 12.45 pm)

Dr. Jitendra Kumar

Dept. of Chemistry
MLK PG College
Balrampur

Lecture 2: Food Ethics
(12.45 pm to 01.30 pm)

Dr. Ravi Raj

Dept. of Chemistry
GDC
Mushafirkhana

Lunch Break
(1.30 pm
To
02.00 pm)

Lecture 3: Food Adulterations
(02.00 pm to 02.45 pm)

Dr. R. R. Pandey

Dept. of Chemistry
MLK PG College
Balrampur

Lecture 4: Various Metabolic reactions
(02.45 pm to 03.30 pm)

Dr. Avinash Tiwari

K.S. Saket P.G. College
Dept. of Chemistry

Venue:
Smt. Lalita Shastri Sabhagar, Shri Lal Bahadur Shastri Degree College, Gonda

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Department of Chemistry

And

IQAC- SLBSDC

On

Chemistry of Food

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At a small liberal arts institution, chemists are continually seeking methods to excite students about chemistry. Students need to understand that chemistry is an essential aspect in their everyday life. What could be more relevant than food consumption and production? Moreover, why do certain food taste good while others are repugnant? The Chemistry of Food seminar theme is designed to engage students in the basic concepts of chemistry while exploring a variety of topics related to food. The seminar also fosters educational skills such as logical thinking and effective communication through interactive sessions. The one day seminar was conducted in three sessions in which 200 students teachers and staff participated from various facilities.

The objectives of this seminar were to study the current practices related to the various food habits among us and their pros and cons. The other purpose is to provide some suggestions and recommendations to improve the food habits among us. It offers deep knowledge about the various chemical processes during making our meals and inside our body during digestion. With this other objective of seminar is

1. To provide a small-group learning situation that will engage students and faculty in an intensive intellectual experience
2. To introduce students in an innovative fashion to a discipline's basic concepts, modes of thought, or procedures
3. To foster basic educational skills--how to read critically, think logically, and communicate effectively (1).

By the end of the seminar, students will describe how chemistry plays a role in food and cooking and intelligently communicate their knowledge with their peers about chemistry, food, and cooking. Moreover, students will have developed their skills with the scientific method. A final goal of the seminar is to consider the ethical issues surrounding food production. This work is original and could be further extended.

The Biochemistry of Food: To start the seminar, the students read a handout discussing basic physical and chemical principles. Next, the students were introduced to the major macromolecules in food and their roles in our health.

Food Ethics: In developing the concept of seminar on chemistry of food, the idea of how food production affects the environment and human health became an important one to address in the

course. At a small liberal college, we are often seeking to tackle issues in a wider social context. It was necessary to expose the students to both sides of the issue. Therefore, several cases studies where a variety of chemicals were found in food were explored. Students had to decide whether or not they would continue to eat the food with the knowledge toxic chemical were either in the food or produced as a byproduct.

Food adulterations: The increasing number of food producers and the outstanding amount of import foodstuffs enables the producers to mislead and cheat consumers. To differentiate those who take advantage of legal rules from the ones who commit food adulteration is very difficult. The consciousness of consumers would be crucial. Ignorance and unfair market behavior may endanger consumer health and misleading can lead to poisoning. So we need simple screening tests for their detection. In the past few decades, adulteration of food has become one of the serious problems.

Metabolic Reactions:

Metabolism performs four essential functions for cells.

1. It provides energy by generating ATP to conduct cellular functions.
2. It converts nutrients, such as fat, protein, and sugar, into simpler structures, such as fatty acids, amino acids, and glucose, respectively (i.e., catabolism). This process can generate energy.
3. It converts simpler structures into macromolecules, such as nucleotides, lipids, and proteins (i.e., anabolism). This process requires energy.
4. It participates in cellular functions beyond energy, anabolism, and catabolism, such as cellular signaling and gene transcription. For example, metabolites serve as substrates for posttranslational modification of proteins to elicit changes in protein function or regulate epigenetic to invoke changes in gene expression.

Conclusion and outcomes

Students were introduced to numerous general chemistry and biochemistry topics. More importantly, students gained experience related to experiments of food adulterations and communicating their knowledge to their neighbors. Perhaps, most importantly, students' awareness of how food is produced on the farm is vital for how it tastes on the table. Overall, students and the speakers had a positive experience with the seminar, and both would repeat the experience and knowledge shared.