



INNOVATIVE INTEGRATED TRAINING IN  
**HEALING PLANTS**  
**BUSINESS**

IO3 - The Total Business Plants Training Material

Module No.3

“Quality assurance of the final product (Medicinal plants)”

## Unit 1: Introduction

- Summary

Unit 1 is an introduction for the reader to familiarize with the term medicinal plants and understand the importance of them through the ages. Mankind has used plants for various reasons (from relaxing to treating wounds). Also, this unit discusses that on our days, medicine should be personalized to fit every person and his needs.

- Learning outcome descriptors

By the end of the Unit, the trainee should be able to:

Knowledge, understanding and professional skills:

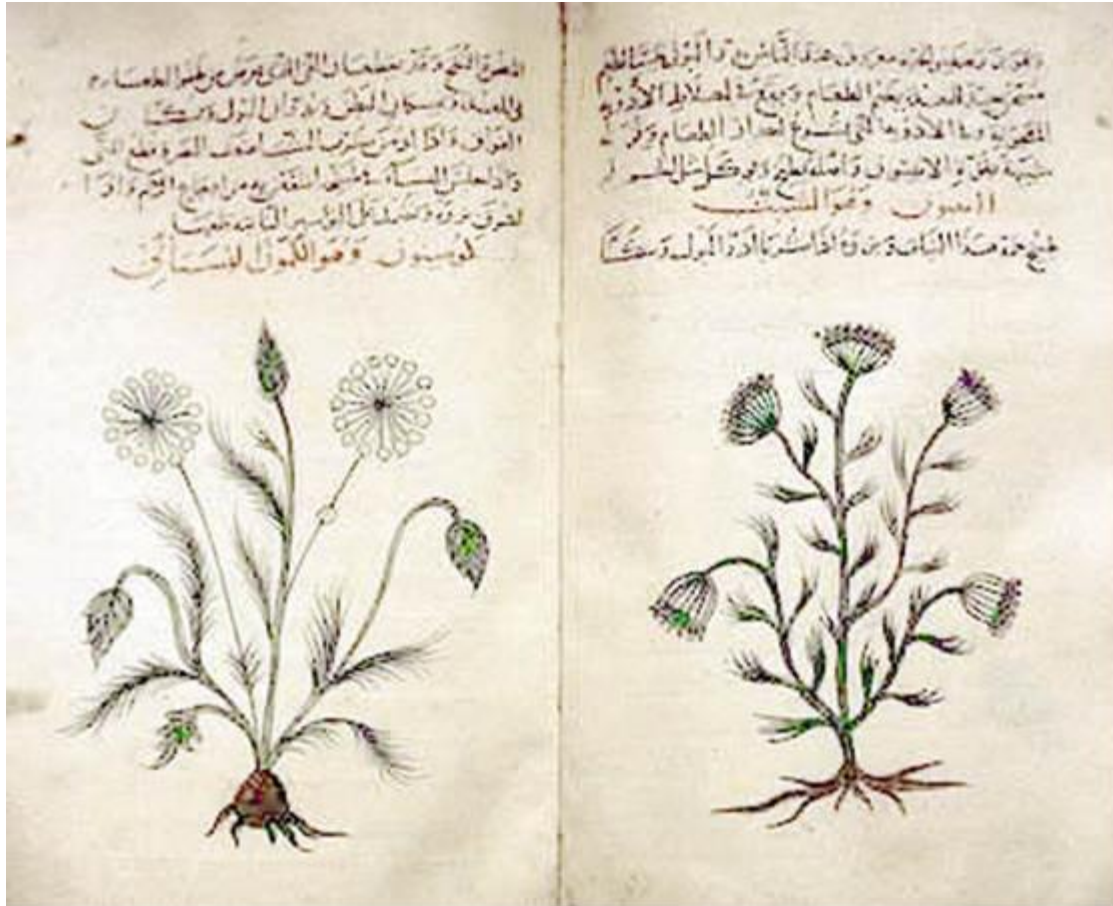
1. Be able to describe the term medicinal plant.
2. Be able to understand the term personalized medicine.
3. Be able to describe and analyze the term “quality control” and know how important this term is regarding medicinal plants.

General and transferable skills:

1. Plan a research task.
2. Work independently or with a minimal guidance where appropriate.
3. Work in team with minimal guidance where appropriate.



Medicinal plants, also called medicinal herbs, have been identified and used by many people since the prehistoric times. Plants can produce countless chemical compounds that can be used for biological functions, including defense against insects, fungi and herbivorous mammals. The ingredients that they have can act on the human body just as pharmaceutical drugs without the harmful effects that can be caused from drugs. However, one must be very careful when taking a plant as medicine, because of the many substances that are contained in it. Healing with medicinal plants is as old as humanity itself. The connection between man and his search for drugs in nature dates from the far past, of which there is ample evidence from various sources: written documents, preserved monuments, and even original plant medicines.



Dioscorides's 1st century *De materia medica*, seen here in a c. 1334 copy in Arabic, describes some 1000 drug recipes based on over 600 plants.

Those long years that humanity battled serious illnesses and death, led to the rise in awareness of medicinal plant usage and distribution. This helped people all over the world to seek and find useful drugs in seeds, fruits and other parts of a plant. Contemporary science has acknowledged their active action, and it has included in modern pharmacotherapy a range of drugs of plant origin, known by ancient civilizations and used throughout the millennia. The knowledge of the development of ideas related to the usage of medicinal plants as well as the evolution of awareness has increased the ability of pharmacists and physicians to respond to the challenges that have emerged with the spreading of professional services in facilitation of man's life (1). It is very interesting that nowadays, the aberrant use of western drugs has led to their loss of function in about 60% of the patients that use them (2), inevitably leading to the concept of pharmacogenomics or personalized medicine. Personalized medicine means that every human being is a unique creation and that custom tailored treatments can be created for each one of us. These treatments must achieve high efficacy and low to now side effects. We are aware that this comes not as new, but personalized medicine has existed in traditional medicine for many

This project has been funded with support from the European Commission.

This publication reflects the views only of the author and the Commission cannot be held responsible for any use which may be made of the information contained therein

years and that traditional and modern medicines can work synergistically and complement each other for the patient's best. In order for all the herbal medicines to be introduced and safely used in western medicine, one must know that standardization, quality control, proof of safety and efficacy are necessary.

25% of all modern medicines are derived either directly or indirectly from higher plants (3, 4). This, in addition to the increasing use of medicinal plants, has led to an increase in concern for their safe use and quality standards from many health authorities, pharmaceutical companies and also their end user, the public. Having said this, it is quite important to understand why quality control and quality assurance is very important when dealing with medicinal or healing plants. According to ISO 9000, quality is a "degree to which a set of inherent characteristics fulfills requirements." Quality control refers to the processes involved directly or indirectly in maintaining the quality and validity of manufactured products. It is of paramount importance for safety, effectiveness, and acceptability of the product and it is an essential operation of the pharmaceutical industry. Drugs must be marketed as safe and with the therapeutically active formulations exhibiting consistent and predictable performance (5).

## References

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