

*The use of plant (Citrullus colocynthis) in alternative medicine
(Historical facts - Geographical view)*

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ABSTRACT:

Alternative medicine is one of the most important choices for humans, as many people are going to live closer to nature, because they have seen good results for most herbs that replace the chemical drugs that have greatly affected the human body. The research investigates the historical facts of alternative medicine, the use of *Citrullus colocynthis*, the treatment of many diseases, the geographical distribution of plants in Iraq, and the proposal to invest in plants in Iraq.

Key words: plant, Biogeography, *Citrullus colocynthis*, alternative medicine, Plant of geography.

A general introduction on *Citrullus colocynthis* plant:

(*Citrullus Colocynthis*) is one of the plants that occupied a prominent place in medicine since ancient ages. As the discovered ruins in the cemeteries of the ancient Egyptians, with what they contained of restored or carved plants and seeds, proved that this plant was known for them, as it was mentioned and cited in Ypres's Papyrus, which was written about the year (1500 BC). This plant was also known by the Greeks, as it was referred to by Dioscorides, and it was cited in the Torah in various places. The (*Citrullus Colocynthis*) is regarded as one of the important recipes in ancient Indian medicine. And was mentioned by al-Antaki in his Tathkara and Ibn Sina in his books, and they transferred his recipes to European countries.(Omer,1972).

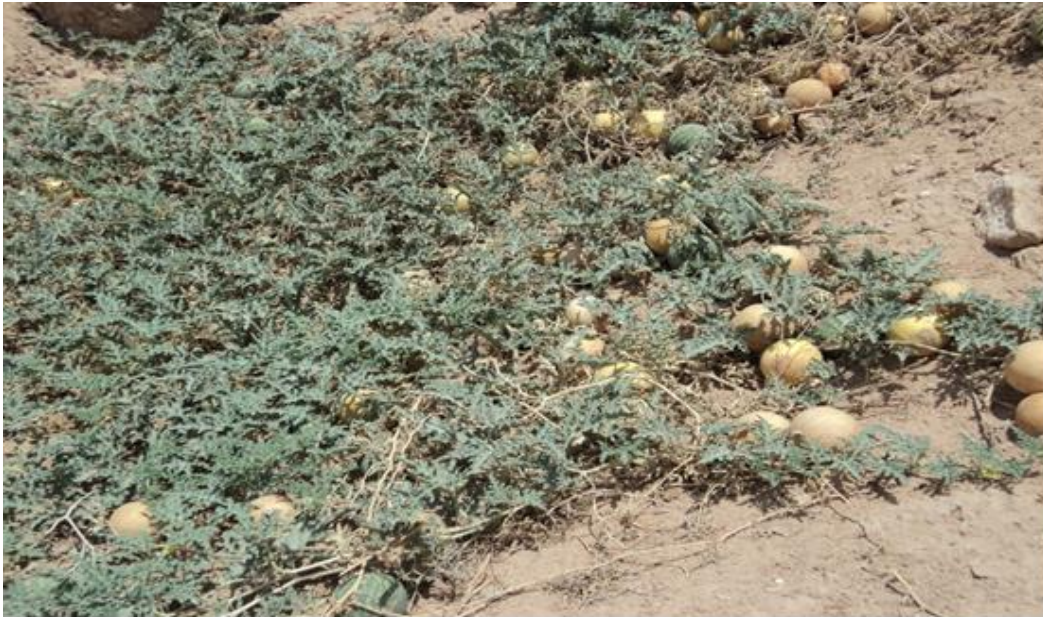
The General Description of (*Citrullus Colocynthis*) or Al-Marar (Bitter) plant:

Citrullus Colocynthis is a herbal crawling perennial plant which belongs to the calabash family. It is one of the bitterest plants, as often been said as a proverb "bitterer than the colocynth"(Al-Wahsh, 2008, P63). The plant takes large of ground to about two meters, its stalks

are slatted covered with bristles coarse to the touch, and its leaves are simple, mutual, white, in the shape of hearts and divided into deep lobes, from their armpits circle links.

The flowers are yellow and the fruits are circular and green with darker color longitudinal lines of a diameter about (8-12 cm) inside which there are brown seeds that look like melon seeds, but smaller in size and the fruit is of a very bitter taste.(Ministry of Agriculture,N.D,P26) Note the following Images: (1, 2, 3, 4).

**Image (1) Citrullus Colocynthis in Wadi Abu Mrees basin
(Southern Desert)**



Source: the field study taken on 3/15/2020.

**Image (2) Citrullus Colocynthis fruits in Suwailiha basin
(Southern Desert)**



Source: the field study taken on 2/3/2020.

Image (3) Citrullus Colocynthis before maturation

<http://www.asergeev.com/pictures/archives/2014/1340/jpeg/10.jpg>

Image (4) Citrullus Colocynthis spreading on the ground after maturation

<http://www.asergeev.com/pictures/archives/2014/1513/jpeg/07.jpg>

The Medicinal and Economic uses of (Citrullus Colocynthis)

The plant contains very bitter glycosides, resin materials, pectin and soap-like materials. The Citrullus Colocynthis is a strong cathartic and very diuretic. The liquid distilled from the Citrullus Colocynthis seeds is used to treating camel scabies, as it contains insect repellent materials. Some Bedouin add garlic to the boiled roots to treat snake

bites. It is also used in the treatment of wounds because of its antiseptic properties. The plant is poisonous if taken in large quantities.(Arab League, 1988, P96)

The *Citrullus Colocynthis* is mentioned in the Tathkara of Dawood Al-Antaki as the following: “It is a plant that extends on the lank like the melon, yet its leaves are smaller and its stem is thinner, it is hot dry, grows in sand and hot countries, its strength remains for four years, its drinking facilitates phlegm, it benefits in hemiplegia, headache lumbago, joint pain, gout, backaches, its cooking with oil is good for leprosy, earaches, jaundice, and its ashes turn the eye's colors to the black.(Al-Antaki, 2000, p131).

The *Citrullus Colocynthis* leaves are used because of their properties in treating the jaundice and asthma. The root is also used externally to treat the eyes conjunctivitis. As the researches have showed the role of the leaves glycosides in limiting the growth of the cells of breast cancer, and the leaves alcoholic extract with a concentration (800 kg/mg) effectiveness against inflammations.(Aksad, 2008, p214) The researches explained the properties of the water extract of *Citrullus Colocynthis* seeds reducing blood sugar. The roasted seeds powder (fatty oils and proteins) is used in the preparing different types of soups. The population also uses the dried grinded heart of the fruits as being a material that can be inflamed and lightened, while it is warned from using it because over doses lead to death due to the plant's poison.(Aksad, 2008, P214)The *Citrullus Colocynthis* is used for mouth pain and the blood getting out from the teeth (Aqeel. 2014, P184)

Medical plants through History (*Citrullus Colocynthis* as an Example):

Medicinal plants have an extreme importance since old ages, as the ancients were using them to treat disease by taking wild plants or parts of them with their natural state, and putting them on the injured part or sick organ of the man. As one of God's blessings and favor is that He created man and created with him the plant to be food and medicine to him; thus there is no disease without medicine. So, Man sought to search for the plant that reduce this pain or that since ancient eras, as historical sources tell us that the history of herbal medicine in Mesopotamia is very old returns back to the time of the Sumerian civilization (3000 BC), and the Babylonians and Assyrians inherited this science of the Sumerian civilization.(Karkaji & Al-Younis, 1977, P7)

The ancient Egyptians also practiced this profession (herbal medicine) in nearly the same historical period with the Mesopotamia civilization, if not little more ancient than it, as it was found in the in the pharaohs antiques and monuments on which many of the plants

used in therapy are drawn, indicating the extent of their interests in medical herbs, as well as the ancient Indians and Chinese who were also interested in this subject, as they registered many notes in their various languages about these herbs. (Karkaji & Al-Younis, 1977, P7)

It is worth noting that the prevailing nature of this profession then it magic and sorcery, and that all the accumulated efforts and experiences in the profession of herbs were relying on coincidence and experiment, so if man encountered his compulsion and ate from a certain plant or tasted it and this plant specially affected him such as diarrhea constipation or colic...etc. That was as an advertisement on these medical characteristics for this plant.^{1*} After the development of modern scientific means and laboratory devices which defined the effective chemical components of the plants, relying by that on the experiments of the forefathers, the ratio of the drugs and medicines of botanical source was shown to be high in comparison to other sources, as the number reached to more than (10,000 properties) and more. (Al-Ni'aimi, 2015, P7).

The Arabs knew the *Citrullus Colocynthis* as a medical plant (and through them, its use entered Europe), so it was mentioned in most of their books which addressed medicine topics, treatment by herbs, and the vocabulary of medicines, and to which they attributed many advantages and benefits, some of which were proved scientifically valid, some others were not verified by medicine yet, and part of it is regarded as out of exaggerations. Thus, Dawood Al-Antaki mentioned in his *Tathkara* that (it heals the leprosy) and benefits the hemiplegia, facial nerve paralysis, headache, migraine, sciatica, joint pain gout, and backaches in drinking and dressing. It benefits in earaches and deafness by mixing it with oil. It blackens the gray and white hair and returns the eye colors to black. Its cooking is vermin repellent, but it hurts the head, sickens, vomits and facilitates the blood. Whereas Ibn Sina says about it in *al-Qanoon* (the selected of the white *Citrullus Colocynthis* the extreme white, the black of it is bad as well as the solid one, and does not heal if it was not yellow, and

¹□ This thing happened in the plant of hashish which leaves were tasted by Al-Hasan Ibn Al-Sabbah and afterwards he felt comfort, harmony and tranquility, so he repeated tasting again, and the feeling was the same again, and this was the principle of using hashish and its use in weakening the will for the sake of killing and plunder. For more examples on coincidences which proved the effectiveness of plants in a certain disease, see:

Abdel Aziz Sharaf, *Medicinal Plants*, The Egyptian public Institution for Authorship and Publication, Dar Al Kateb Al Arabi for Printing and Publication, Cairo, 1968, p. 9

the green color did not completely get off from it and the green color did not completely get off from it and the green purges extremely and distresses).

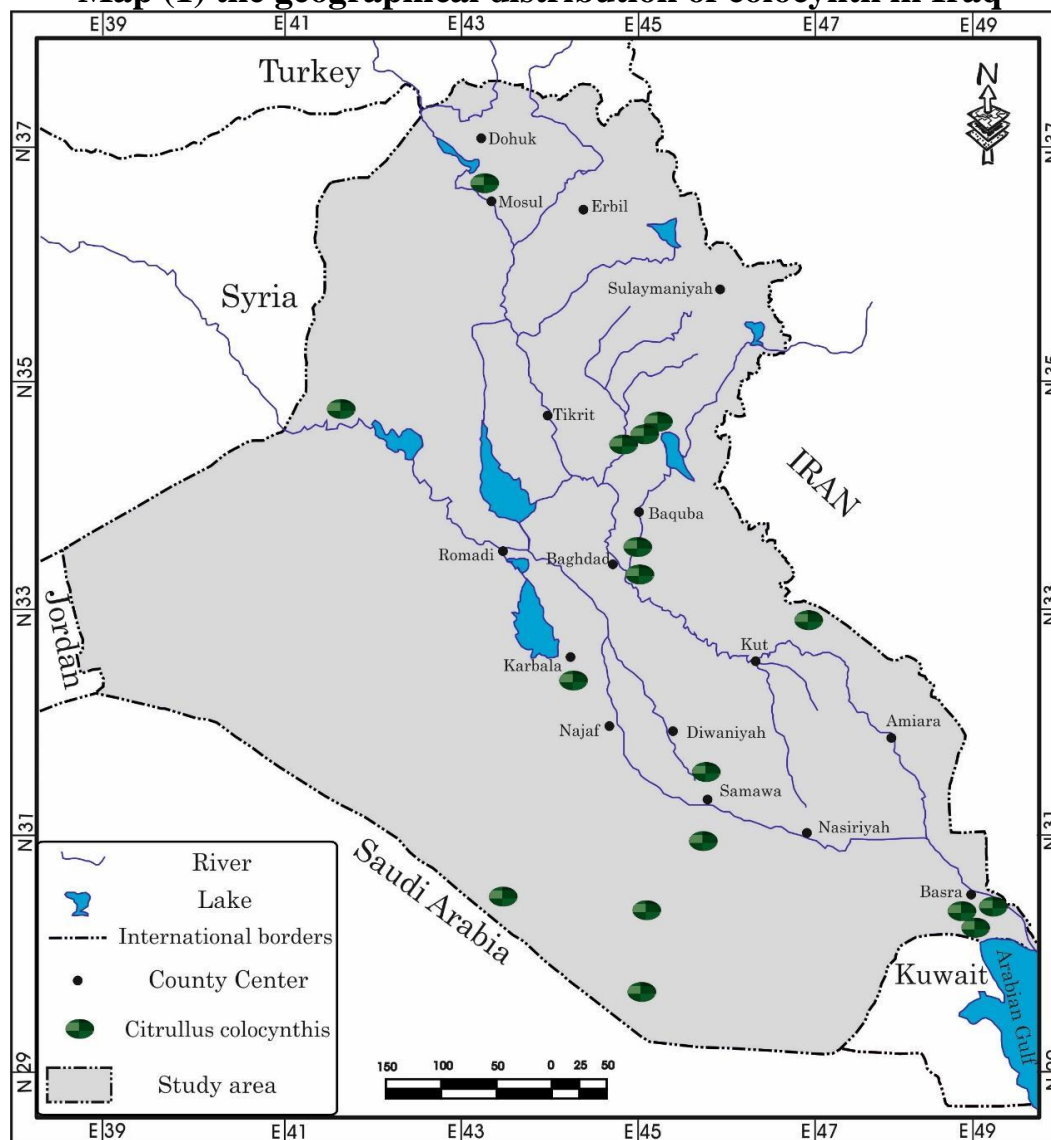
Ibn Sina enumerates its advantages and benefits, saying “that it facilitates the thick phlegm, and useful for mycholia, obsession, fox disease, leprosy, epilepsy and elephantiasis by messaging and for toothache by censing with its seeds. It is cooked in oil to be a useful drop for the ringing in the ear. Its stem is useful for snake and scorpion stings, it kills fleas" It is noted that the *Citrullus Colocynthis* has an extensive effect on the digestive system: therefore, the Arab physicians arrived at finding some ways by which they mitigate its effect, as some of them lengthened its boiling, or its fermentation, and some others extended it with a large amount of Arabic acacia or glue.(Omer, 1972 pp 6-7).

The Geographical distribution of the plant in Iraq:

The *Citrullus Colocynthis* circulates in most Iraq's parts, as it is seen from map (1) in the middle and southern Iraq, as well as its circulation extensively in the governorates of Al-Muthanna and Al-Basrah. Also from the map, the circulation of the plants is seen near the rivers, as the plant grows spontaneously after the season of rainfalls or floods to which the areas exposed on the shoulders of the rivers, as well as the seasonal rivers.

The possibility of Investing in Iraq:

The *Citrullus Colocynthis* reproduces by seeds which grows in the middle of the spring season. The plant prefers the sandy soils, as it grows in the small areas of sand hills and in areas of gathering the silty sandy clays drifted by the flows and settling in low places. Its stake root extends to far depths searching for water, and its trunks and branches spread over the soil surface. This plant has a wonderful ability to grow in hot sandy lands during summer months, as no other plant can resist these harsh conditions due to its long root extending to far depths and as all the parts of this plant are coated with bristles which reduces the transpiration process and protect it from the intensity of sun rays and its heat.

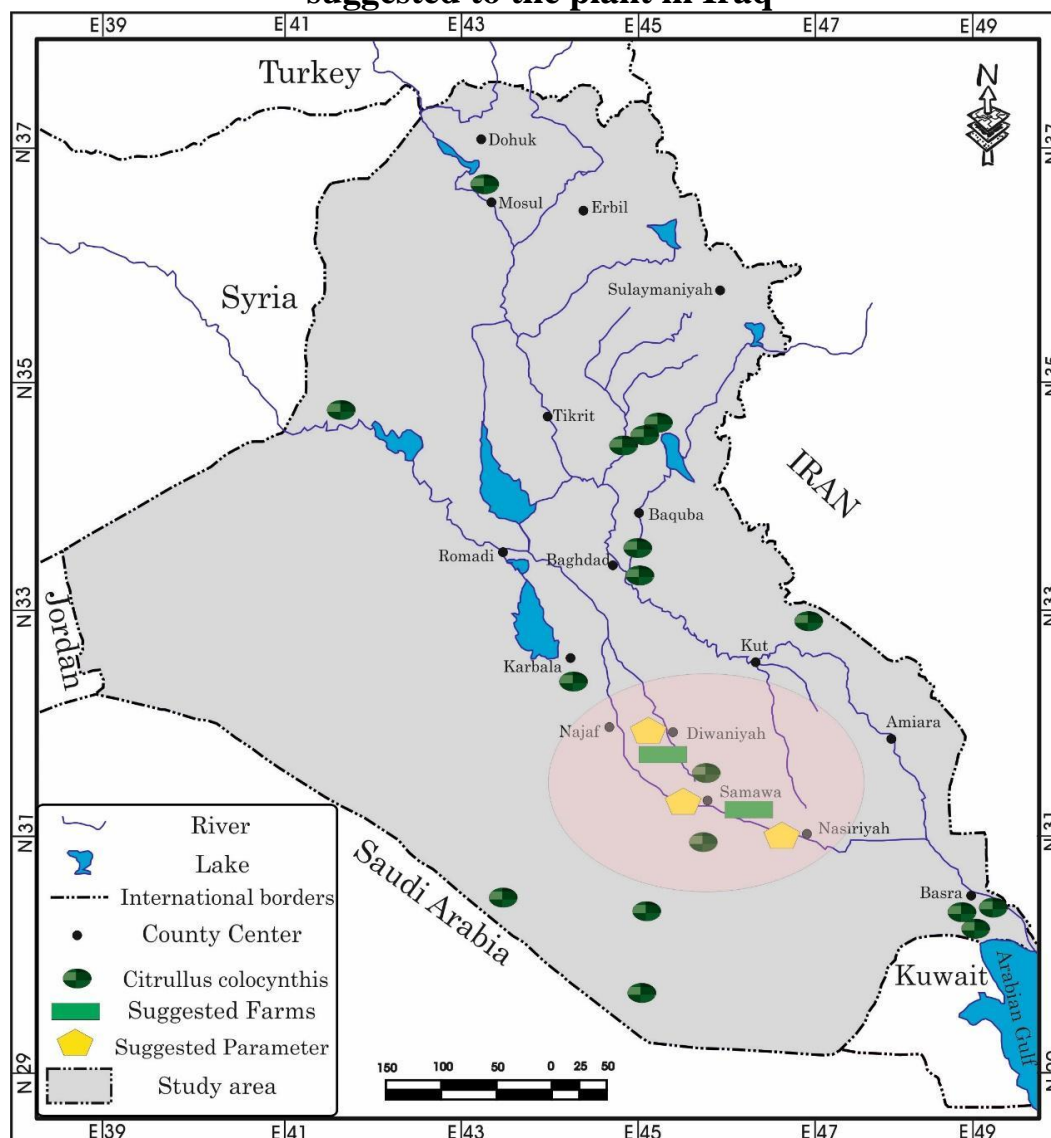
Map (1) the geographical distribution of colocynth in Iraq

Ali Al-Rawi, H.L. Chakravarty, Medicinal Plants of Iraq, Ministry of Agriculture, Baghdad, 1988, Illustrative Map of Medicinal Plants in Iraq, Scale 1:1.500.000. A

The investment process is summarized by planting *Citrullus Colocynthis* in its suitable areas in the middle and southern Iraq, where there are sandy soils and sand hills between the governorates of Dhi Qar, Al-Qadisiyah and Al-Muthanna.

The plant can be invested by extracting the raw materials which enter in medicinal industries and cosmetics by establishing factories in the centers of the aforementioned governorates, see Map (2), and with simple calculation processes if one donum was planted with *Citrullus Colocynthis* plant by (500 plants), we have a productivity of (500 x 25 = 12,500 fruits), as one plant produces from (15-50 fruits). The productivity increases whenever the areas specified for planting increase.

Map (2) The areas of the plant's farms and the factories suggested to the plant in Iraq



Source: The work of both researchers based on map (1)

Briefly saying:

Citrullus Colocynthis is a plant with great economic and medical benefits and advantages, as its use is proved over the history, it is available in large quantities in Iraq, and it can be invested by planting it through seeds in the areas of sand hills available in the plains between the two rivers and near the natural sources of Citrullus Colocynthis. Also, factories, specialized in isolating and extracting raw materials (extracted from the plant) which enter in drug industries and cosmetics in the governorates' centers, can be established: thus an important and neglected natural resource is invested, unemployed manpower is employed, as well as an increase in the state's reliance on natural resources and the giving up of the principle the rentier economy which almost led Iraq to abyss.

Footnotes and Endnotes:

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استعمال نبات الحنظل في الطب البديل (حقائق تاريخية – رؤية جغرافية)

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المستخلص:

يعد الطب البديل من أهم خيارات الإنسان في الوقت الذي أصبح فيه كثير من الناس يتوجهون للعيش بحياة أكثر قرباً من الطبيعة، وذلك لأنهم لمسوا نتائج جيدة لمعظم الأعشاب والتي تحل محل الأدوية الكيميائية والتي أثرت وبشكل كبير في جسم الانسان . يستعرض البحث الحقائق التاريخية للعلاج في الطب البديل، و استعمال نبات الحنظل (*Citrullus colocynthis*)، في التداوي لكثير من الأمراض ، والتوزيع الجغرافي للنبات في العراق، وتقديم مقترح لاستثمار النبات في العراق .
الكلمات المفتاحية: النبات، جغرافية حياتية، الحنظل، الطب البديل، جغرافية النبات.