GROWTH AND DEVELOPMENT OF SILYBUM MARIANUM (L) GAERTN PLANT

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Abstract: Silybum marianum (L.) Gaertn is a versatile plant, found on all continents and adapted to different soil and environmental conditions. ") is the only reliable source of silymarin, which, given its recognized therapeutic effects and many current and potential uses, has led to significant rediscovery and improvement of crop yields in plants.

Key words: Silybum marianum, medicine, medicinal, plant, seed.

Silybum marianum is a medicinal plant grown in Central Europe and Asia for the production of silymarin. It is also considered a crop weed in fields and pastures. Although S. marianum still exhibits wild species characteristics; both its fruit and biomass productivity are excellent. Therefore, the species is attracting interest as a potential new commercial crop for many purposes (e.g., medicinal plant, bioenergy, and vegetable oil production).

Despite the interesting characteristics of this plant and its economic importance, a detailed description of the phenological growth stages of S. marianum has never been developed. A clear and unambiguous description of the growth stages of this species will be a useful tool for several agronomic and research activities, weed management practices and further genetic improvement programs.

Silybum marianum (L.) Gaertn. (synonym Carduus marianus L.), common name Common cardamom is an annual or biennial species belonging to the Asteraceae family. The homeland of the species is the southern part of Europe, Asia Minor and North Africa and naturalized in North and South America, Australia and New Zealand. The genus Silybum is described to group only two species.

A number of strategies have been implemented to control S. marianum as a weed. They include: agrotechnical, biological and physical control methods. However, herbicide application is the most reliable control strategy. However, herbicide efficacy depends on the developmental stage of S. marianum, as seedlings and rosettes are more sensitive to selective broadleaf herbicides than older plants.

Despite the growing interest in S. marianum and its official and economic importance as a weed species, a clear description of the phenological phases throughout the plant's development has never been proposed. In previous reports, the phenology of S. marianum plants was used to provide guidance on the most suitable growth phases for the timing of harvest, or to estimate the most suitable time to remove S. marianum plants and thereby described to reduce its proliferation as a weed. In addition, Carrier described floral phenology in relation to silymarin and fruit oil content.

Taking into account the aforementioned flower development reports, this study aims to develop a detailed and unified description of all the different growth stages of S. marianum. Such a guide will be a useful tool in future plant breeding programs, establishing better agronomic practices, studying crop adaptation to different environments, or establishing herbicide and fertilizer application protocols. ladi In fact, the use of the phenological growth guide can be extended to all activities that depend on the accurate description of the various

phenological stages. The aim of this manuscript is to describe the phenological phases of S. marianum according to the "extended BBCH scale, general".

References:

1. www.agroilm.uz