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Distribution of common ragweed (*ambrosia artemisiifolia*) plant and pollen in Latvia and factors affecting them

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Common ragweed (*ambrosia artemisiifolia*) is an invasive plant species in Europe and other parts of the world, originating from Central and North America. Its pollen can cause allergic reactions. The plant also can invade agricultural lands, causing decrease in harvest, as well as being a threat to biodiversity. Under the influence of various factors, its spread in Europe is growing rapidly and introducing itself to new territories.

A survey was conducted to gather data, where people in Latvia have come across common ragweed, its location and environment. To understand common ragweed presence historically, herbarium data was analysed from 1979 to 2019 in Latvia. Every herbarium sample had the date when it was collected, the location and the environment. All ragweed locations were plotted using ArcMap.

Survey data shows that common ragweed was mostly found in Riga or near other cities, often noting that there was bird feed nearby. Most sightings were during August and September months. Herbarium data shows, that most samples were collected in Riga or nearby. They were found in urban environments, near railways, side of streets, mostly in September and October months. Comparing to historical data, from 1979 to 2005 there were 36 plant samples collected in herbarium, yet just in 2022 there were 37 sightings of common ragweed recorded by the survey participants, possibly showing the spread of the plant.

To further this study, another survey will be conducted- collecting data on public health regarding to common ragweed pollen. Survey will include questions on health during pollen season, symptoms, effect on daily life etc. Pollen concentration data will be analysed for correlations with meteorological data. The aim of this study is to understand how common ragweed is introduced in Latvia, how people are affected by common ragweed pollen and what factors affect the spread of common ragweed in Latvia.

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