



## TORAF, a seed producer, to launch space research with the PERUN rocket



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*TORAF, a Polish seed producer, launches the TORAF Seed Mission with SpaceForest: four PERUN suborbital flights (2025–2026) to test how reduced pressure, radiation, vibrations and g-loads affect seeds. First batch is in Gdynia. The project has the honorary patronage of Kluczbork.*

# TORAF, a seed producer, to launch space research with the PERUN rocket

**Kluczbork, September 20, 2025** – TORAF, a Polish seed producer from Maciejów (Kluczbork municipality), announces the launch of the [TORAF Seed Mission](#) in cooperation with **SpaceForest**. The program will comprise **four suborbital flights** carrying seed payloads aboard the [Polish PERUN suborbital rocket](#). The first batch of seeds has already been delivered to the facility in **Gdynia**. The project is held under the **honorary patronage of the City of Kluczbork**.

## Project objective

The **TORAF Seed Mission** aims to assess how suborbital conditions **reduced pressure, increased radiation, vibrations and g-loads**—affect **seed viability, germination, and plant growth**. The research will be conducted in a certified seed testing laboratory in cooperation with scientific partners and specialized labs.

## Flight timeline

[Flight 1 \(2025, Ustka\)](#) – apogee approx. **50 km**

[Flight 2 \(2025, Ustka\)](#) – apogee approx. **80 km**

[Flight 3 \(2026, Santa Maria – Azores, Portugal\)](#) – apogee approx. **100 km**; in cooperation with the [Atlantic Spaceport Consortium](#)

[Flight 4 \(2026, Denmark – EuroSpaceport, offshore platform\)](#) – target apogee approx. **150 km**

## PERUN rocket – key facts

**Dimensions / propulsion:** length **11 m**, diameter **45 cm**; hybrid **SF-1000** engine (oxidizer: nitrous oxide; fuel: paraffin)

**Performance:** payload up to **50 kg**, apogee up to **150 km**, liftoff mass approx. **1 t**

## Biological material

The mission will include a selection of vegetable and flower seeds, including: [radish Flamboyant 3](#), [cucamelon \(Mexican sour gherkin\)](#), [garden cress](#), [purslane](#), [a mixed sprouting seed blend \(alfalfa, clover, broccoli, radish\)](#), [“Cosmic Salad Mix”](#), [a special flower mix for pollinator forage studies](#), [“Bajaja” cherry tomato](#), and [Arabidopsis \(thale cress\)](#)—[a model species for genetic analyses](#).

## About TORAF

**TORAF** is a Polish producer of vegetable, herb, and ornamental plant seeds based in Maciejów (Kluczbork municipality). The company has for years expanded its product range and educational initiatives, bringing together horticulture and new technologies.

## About SpaceForest

**SpaceForest** is a Polish technology company specializing, among others, in rocket systems, telecommunications, and high-frequency electronics. The **PERUN** rocket is the company's proprietary, **recoverable** suborbital launch platform.

## Media contact

### TORAF – Press Office

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