



Augu “magic” LASĪTTAKA

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Vēstuli Lasīttakai raksta zinātnieks,
Laiks Ziedonim laureāts - Egils Stalidzāns.

Zeme un saule mūs baro.
Kā? Caur augiem!

Lapas tiecas pret sauli. Saņemot saules enerģiju, augi kā enerģijas avotu un būvmateriālu piesaista un paglabā sevī ogļskābo gāzi, kuras “ražotājs” ir arī cilvēks. Vēl augi saražo arī mums vajadzīgo skābekli. Tas ir tas, ko cilvēki un dzīvnieki nekādi neprot, - mēs nevaram paēst no gaisa, lai arī cik ātri mēs mēģinātu elpot. Augs to izdara mūsu un dzīvnieku vietā.

Saknes tiecas zemē. No turienes saknes saņem tādas vielas, kuras nepieciešamas augšanai, bet gaisā nav noķeramas: piemēram, dzelzs, cinks, magnijs varš un citas vielas. Arī šīs vielas mēs paši nespējam iegūt ne no zemes, ne arī no gaisa, bet mums tās vajag. Vecāki Tev pastāstīs, ka arī Tu, visdrīzāk, esi ēdis zemi (laikam jau tāpēc, lai pats tiktu pie dzelzs vai cinka) ļoti agrā bērnībā, bet parasti tas nekļūst par ieradumu: pat zeme ar kečupu ātri apnīk. Tad nu priecāsimies par to, ka augi mūsu dzīvībai nepieciešamo ar saknēm izsūc no zemes un mēs varam tikt pie vērtīgajām vielām bez smiltīm starp zobiem. Augi padara mums neredzamās un nesasniedzamās zemes bagātības apēdamas! Cik mīļi no viņiem!

Mēs, cilvēki, esam visēdāji, jo varam ēst: 1) augu izcelsmes produktus (saule un zeme), 2) augēdājus dzīvniekus, kuri barojušies ar augiem (saule un zeme), 3) plēsīgos dzīvniekus, kuri ēduši dzīvniekus, kas ēduši augus (saule un zeme). Beigu beigās visam ēdienam - augiem, graudiem, augļiem, gaļai un citiem - pamatā bijuši augi, kurus baro zeme un saules gaisma.

Vēl augi ir apbrīnojami ar to, ka visu mūžu nodzīvo vienā vietā - tur, kur ielaiduši saknes. Augi nespēj pārvietoties, jo tas nozīmētu saraut saknes. No vienas puses tas ir ērti - nav jāmazgā kājas un nevajag kedas. Bet iedomājies, cik izturīgam un gudram jābūt augam, lai visu mūžu spētu izturēt visu Latvijas karstumu un salu vienā vietā? Vai mēs spētu apstāties vai apgulties kādā mežmalā vai laukā un palikt tur kaut vienu gadu, pat ja mūs barotu? Mums būtu jāizcieš vēji, lieti, svelme, sals. Apbrīnojami, bet augi to spēj. Mēs tikai reti par to brīnāmies!



Visi augi nav vienādi. Katrā vietā uz Zemes ir tikai daļa augu, kas tur var atrast visu nepieciešamo un izdzīvot. Tāpēc, līdzīgi kā cilvēki un dzīvnieki, augi dzīvē iet dažādus ceļus. Padomā, kuri augi ir visatšķirīgākie? Tulpe un egle? Burkāns un ābele?

Katrs augs no zemes un saules paņem ko citu un ir atšķirīgi. Egles un priedes aug garas, dzīvo daudzus gadus, ir cietas un nav pārāk garšīgas - pat Tava mamma un tētis tās daudz neēd. Kartupeļi dzīvo siltajā laikā un ziemu pārlaiž zem zemes kā kartupeļa bumbulis, kuru cilvēki ēd ļoti labprāt. Rudzi, pretēji kartupelīm, savu sēklu neslēpj zemē, bet gan kā lūgšanu stiepj vārpā pretī saulei. Un bērni ir gan priedei, gan eglei, gan kartupelīm, gan rudziem... Turklāt katrs augs no zemes un saules paņemto izmanto atšķirīgi - viens sagatavo vairāk vitamīna C, cits savukārt ir barojošāks. Mums augi tikai prasmīgi jāsaliek kopā!

Daudzu augu izdzīvošanai par lielu palīgu kļuvuši cilvēki, kuri, rūpējoties par sevi, saprot, ka jā rūpējas arī par augiem un jāpalīdz tiem izaugt pietiekošā daudzumā. Tā cilvēki glabā sēklas, audzē rudzus, miežus, auzas, kartupeļus, ābolus, ķirbjus, lai dabūtu visu, kas vajadzīgs no saules un zemes. Cilvēki audzē arī kokus, lai būvētu mājas, durvis, kastes un citas vērtīgas lietas, kas arī galu galā nāk no zemes un saules, pateicoties augu daudzveidībai un izveicībai.

Uz tikšanos!
Egils,
2020. gada septembrī



Plants and miracles LASĪTTAKA

The letter to “Lasīttaka” is written by scientist Egils Stalidzāns (University of Latvia)

The Earth and the Sun feed us.
How do they? With the help of plants!

The leaves reach towards the Sun. When they receive solar energy, plants sequester carbon dioxide, which is also "produced" by humans, and retain it as an energy source and building material. Plants also produce the oxygen we need! This is what humans and animals cannot do at all - we cannot lunch off the air, no matter how fast we breathe. The plant does this for us and other animals.

The roots reach into the Earth. From there, the root draws the elements that are necessary for growth, but cannot not trapped in the air: for example, iron, zinc, magnesium, copper and other substances. These elements, too, we cannot obtain from the ground or from the air ourselves, but we need them. Your parents will tell you that you, too, have probably eaten the earth (probably to pick up some iron or zinc yourself) at a very early age, but usually it does not become a habit. Even with ketchup, the earth soon grows bland. Then let's be delighted that the plants draw all the essentials we need from the earth, using their roots, and we can obtain the invaluable elements without having to grind sand between the teeth. Plants readily serve us the invisible and inaccessible riches of the earth! It is really nice of the plants!

We humans are omnivores - we can consume 1) products of plant origin (Sun and Earth), 2) herbivorous animals that feed on plants (Sun and Earth), 3) carnivorous animals that prey on animals that eat plants (Sun and Earth). Ultimately all food - plants, grain, fruit, meat and others - is based on plants fed by the earth and sunlight.

The plants are also remarkable in that they spend all their lives in the same place - where they have taken root. Plants are unable to move, as this would mean breaking or tearing up the roots. On the one hand, it is convenient - no need to wash your feet and no sneakers are necessary. But imagine, how hardy and smart a plant must be to be able to withstand all the heat and cold of Latvia in a single place for the rest of its life? Would we be able to stop or lie down on a forest edge or in a field and remain there for at least a year, even if we were fed?



We should have to endure winds, rain, heat, frost. Amazing, but plants can do it. We wonder about it so seldom!

Not all plants are the same. Every place on Earth has only a fraction of plants that can find everything they need and survive there. Therefore, like humans and animals, plants follow different paths in life. Just think, which plants are the most different? Tulip and spruce? Carrot and apple tree?

Each of the plants takes from the Earth and the Sun something different and is different. Spruces and pines grow tall, live for many years, they are hard and not too tasty - even your mom and dad don't eat them much. Potatoes live in warm weather and spend the winter underground in a form of a potato tuber, which people like to eat. Rye, unlike potatoes, does not hide its seed in the ground, but extend its ears like a prayer towards the Sun. And pine, spruce, potatoes and rye, all of them have children... Moreover, each plant uses what is taken from the Earth and the Sun differently - one makes more vitamin C, the other is more nutritious. We just need to skilfully put the plants together!

The survival of many plants has come to greatly depend on human assistance. People, taking care of themselves, understand that they must also tend the plants and help them to grow in sufficient quantities. Thus, people store seeds, plant and grow rye, barley, oats, potatoes, apples, pumpkins to get everything they need from the Sun and the Earth. People also grow trees to build houses, doors, boxes and other useful things, which also ultimately come from the Earth and the Sun thanks to the diversity and skill of plants.

See you again!
Egils Stalidzāns,
September 2020