

Presentations of migration workflow and experiences

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Luke in brief



22
locations

1337
employees

133 M€
turnover

Plant Genetic Resources Programme

- Since 2003, coordinated by Luke
- Strategy 2018: Finnish National Genetic Resources Programme for Agriculture, Forestry and Fishery
- Luke - Agricultural and Horticultural genebank: 1000 vegetatively propagated accessions
- Seeds and potatoes are maintained by NordGen



Presevation methods at Luke genebank

Goal is to preserve all accession in one field collection and in cryo at two locations

Field Collections at Luke

- Piikkiö & Tuorla: fruits, berries, vegetables and ornamentals
- Jokioinen: apples, breeding materials on sea buckthorn
- Kajaani: herbs

Cryo Preservation at Luke

- Loppi & Jokioinen: Strawberries, currants, raspberries and some ornamentals (potato onions, hops and apples on going)
- Goal is to preserve all accession in cryo in two places

In vitro Preservation at Luke

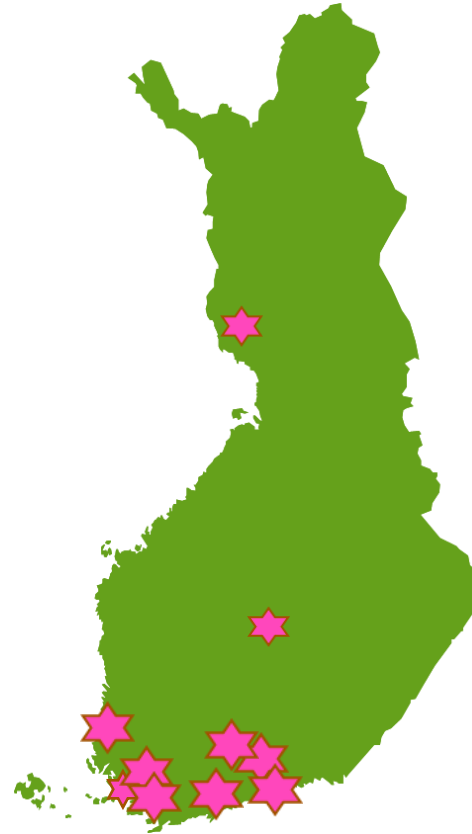
- Loppi: some berries, ornamentals and hops;



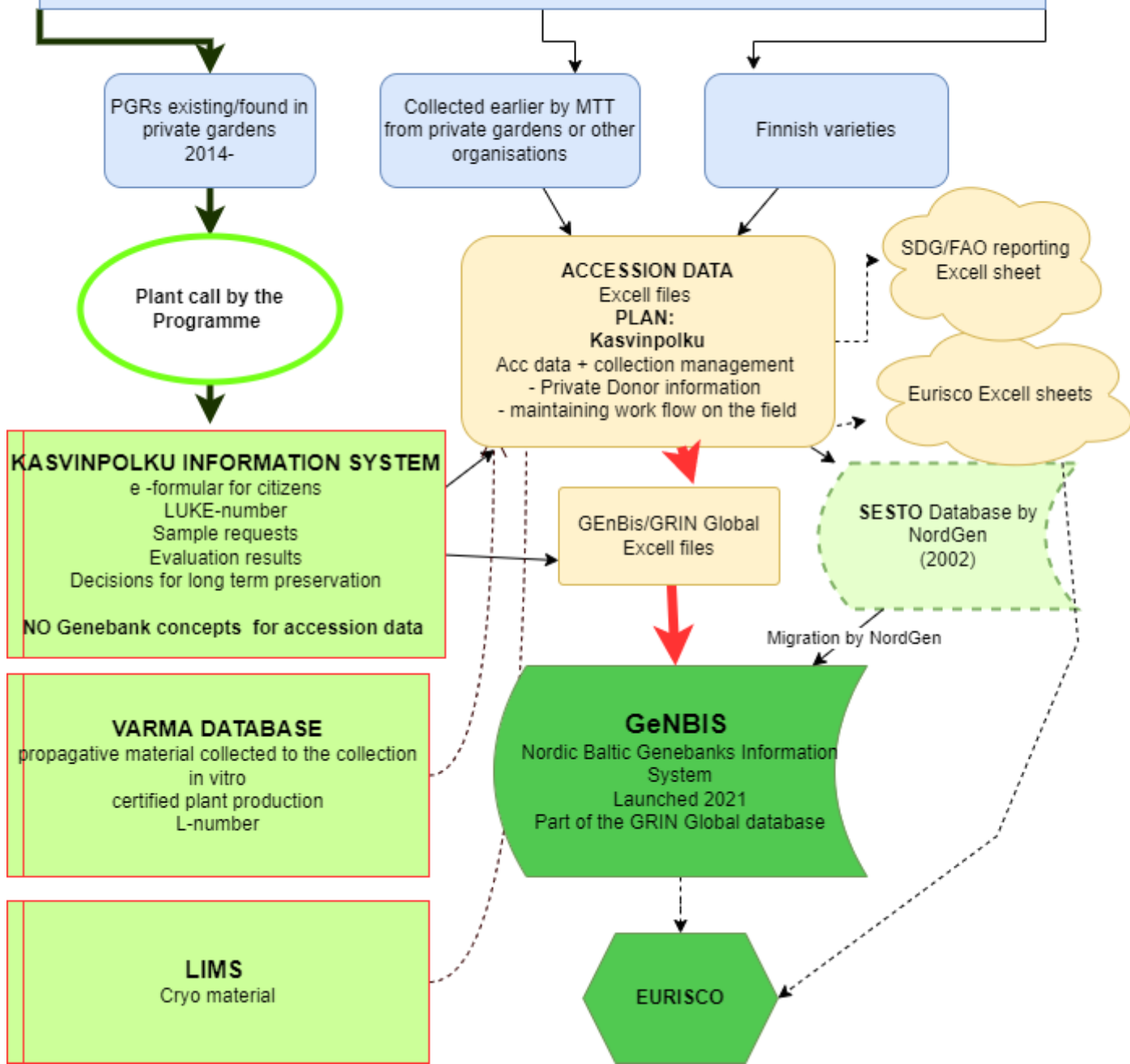
Back up collections

Goal is to have all accessions maintained in back up collections

- Finnish Food Authority pays to collection maintainers an environmental subsidy (small reward)
- Managed by the plant genetic resources programme: agreements, networking, reporting
- 10 maintainers: associations, municipalities, schools, universities, museums etc.
- Back up collections preserve and demonstrate PGRs to the public



Finnish Plant Genetic Resources: Data and Information systems



Plant call as a method to collect candidates for PGR collection

Kasvikuulutus
Missä kasvaa arvokkaita vanhoja raparpeireita?



Luonnonvarakeskus kerää tietoja Suomessa pitkään viljellyistä raparpeireista.

Ilmoita meille 1940-luvulla tai sitä ennen viljellystä raparperista, joka:

- kasvaa Sisä-Suomessa tai Pohjanmaalla
- on hyvämakulinen tai vähähappoinen
- varren kuori ja maitto ovat punaiset
- on ohutvartinen ja aikainen

Kasvikuulutus
Missä kasvaa vanhoja sipulikukkia?



Luonnonvarakeskus kerää tietoja ja näyttöä Suomessa 1950-luvulla tai sitä ennen kasvaneista sipulikukkaista.

Kerro meille näistä ja muista sipulikukkaista:

- helmilijät
- kellohyasintit
- kevättähdet
- koiranhampaat
- krookukset
- kuningasliijät
- käenreskat
- laukat
- marjansipulit

KASVIKUULUTUS
Missä kasvaa arvokkaita vanhoja humalia?



Luonnonvarakeskus (Luke) kerää tietoja Suomessa pitkään viljellyistä tai luonnosta kasvavista vanhoista humalista.

Ilmoita meille vähintään 50 vuotta vanhasta tai sitä ennen Suomessa viljellystä humalasta, joka:

- tuottaa hyvän sadon vuosittain
- on terve, taudinkestävä ja hyvin kasvava
- sopii oluen valmistukseen tai sitä voi hyödyntää muulla tavoin

Ilmoita esim. aromiltaan, maultaan tai sulutaan erityislaatuista käpyä

Ilmoitukset ja kasvikuulutus päättyvät 31.7.2017 mennessä:
luke.fi/ilmoitkasvi

Kasvikuulutus
Missä kasvaa vanhoja arvokkaita pioneja?



Luonnonvarakeskus kerää tietoja Suomessa 1950-luvulla tai sitä ennen kasvaneista pioneista.

Erityisesti etsitään:
kuolanpioneja
juhannuspioneja
tillipioneja
kartanopioneja
tarhapioneja

Kerro meille pionistasi ja liitä ilmoitukseesi halutessasi valokuvia:
www.luke.fi/ilmoitkasvi

Voit lähettää kuvia pionistasi myöhemmin:
pionit@luke.fi

Kasvikuulutus
Missä kasvaa vanhoja syysleimuja?



Luonnonvarakeskus kerää tietoja ja näyttöä Suomessa 1950-luvulla tai sitä ennen kasvaneista korkeista leimuista (*Phlox* sp.).

Keräys toteuttaa Suomen kansallista kasvigeenivaraohjelmaa, joka huolehtii peltujen ja puutarhojen viljelykasvien monimuotoisuuden säilymisestä tuleville sukupolville.

Kasvaako pihallasi kesän lopulla kukkiva korkea syysleimu, täpläleimu tai kiiltoleimu?

Kerro meille vanhoista leimuista! Voit liittää mukaan myös valokuvia.
www.luke.fi/ilmoitkasvi

Need for the plant calls

- There is not yet any collection for a species /species group
- Existing collection is known not to cover the possible diversity

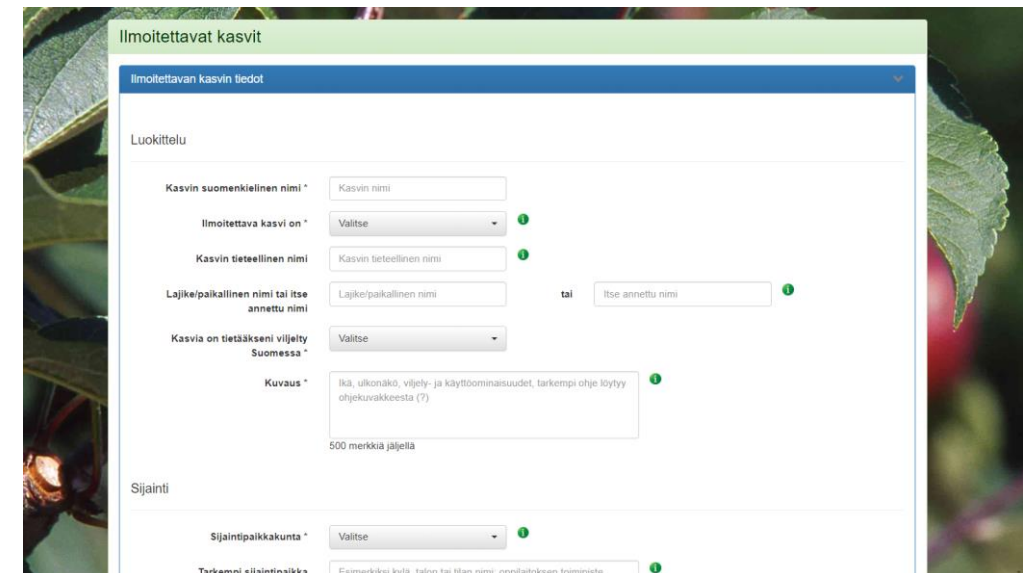
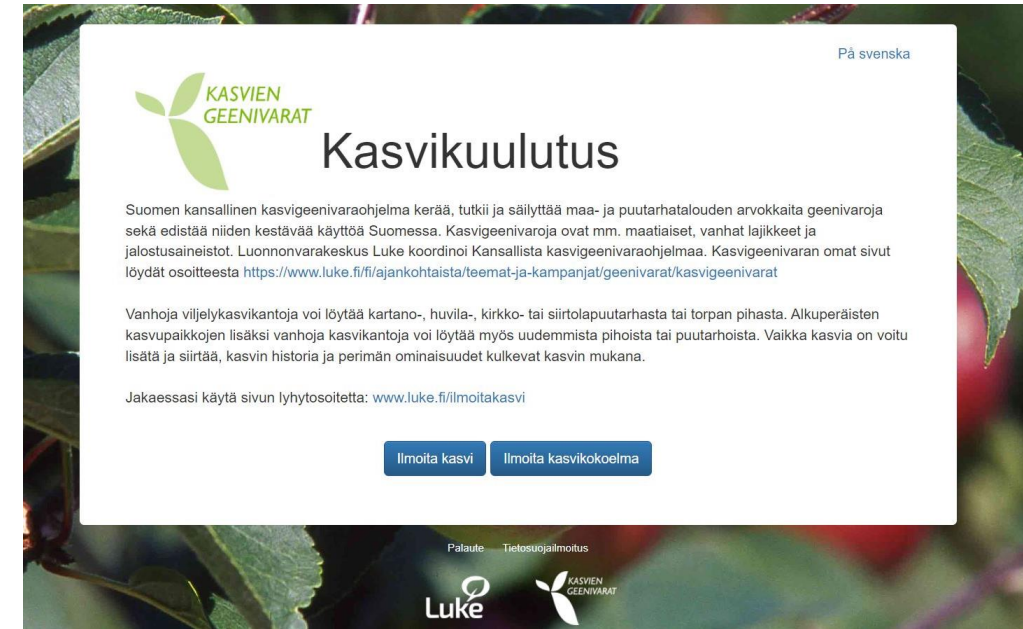
The diversity still exists in gardens and farms!

Tools for the plant call

- Poster
- Press release
- Kasvinpolku Data Information System

“Announce a plant” – Service for citizens/organizations

- www.luke.fi/ilmoitakasvi
- Data is stored at Kasvinpolku Information system
- Open non stop since 2014
- It is possible to announce either a collection or 1-20 plants
- At the moment 6000 announcements:
 - 700 rhubarbs
 - 700 ornamental bulbs
 - 1400 hops
 - 700 peonies
 - 400 flox
 - 200 apples
- Gathers biological, locational and oral history knowledge of the announced plant
- User has a possibility to add photos or other documents into the announcement
- Can be used by mobile



GeNBIS

- 419 accessions in GenBIS
 - accepted: 154 accessions
 - pending: 99 accessions
 - rejected: 166 accessions
- Allium, horse radish, rhubarb, cherries, plums, herbs, strawberries, hop
- Accessions to come next: Ribes sp., other berries and apples
- later: ornamentals



Work flow for GeNBIS

Prepared instructions

- Accession data view
- Accession inventory name data view
- Next to come: Source, Pedigree, Cooperator table, Inventory data view
- Has enhanced discussions with PGRs experts at Luke how to arrange the data for the tables
- Familiarizing ourself by adding *Prunus* sp.

Transferring the expertise on PGRs data management to Saija Rantala.

- *Ribes* sp. accession data to be transferred to GeNBIS

Collecting and checking the apple data

- A project for managing the PGRs: has increased joint discussions about maintenance methods on the field, labeling the plants etc.
- FIN number will be used on the field/QR Code/ inventory number?

Modifying the data for the berries

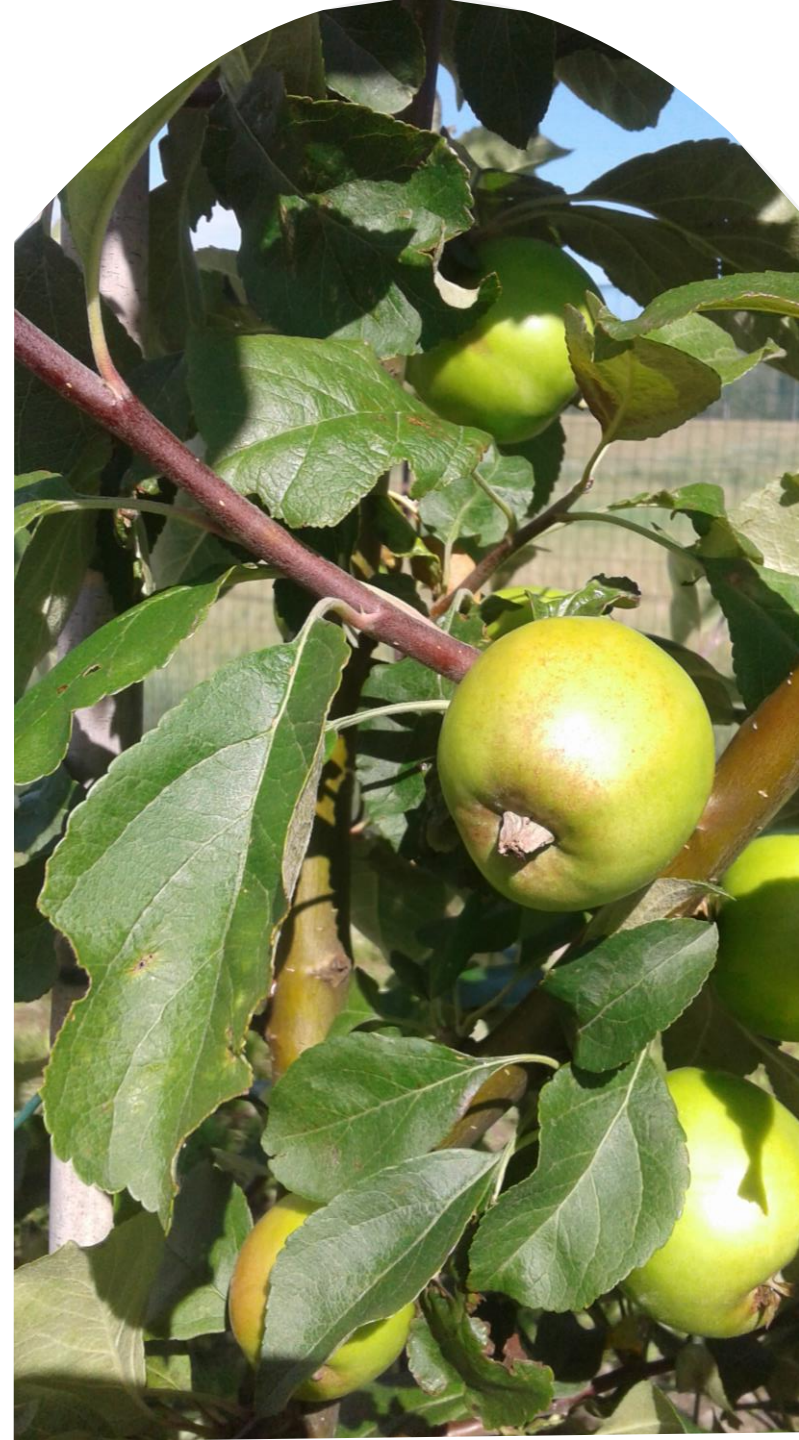


Some remarks on GeNBIS

- Problems with logging into Curator Tool: it demands Luke Special rights
- Challenges to load the Curator Tool to LUKE computers
- *Drag and Drop* does not work, we use CTRL + C/ V commands
- Original *Received date* data (the date and the form) has been replaced by the system, if we have been updating some other data related to the accession in question.
- The drop-down menus are very long and all the options are not available in the general instructions
 - It is not always easy to choose the right option

We need more education and time to find out:

- Using the search tool on the website by ourselves
- You tube videos for the citizens might be needed
- The chain from field to orderer: plant labeling on the field



Bulk loading example 17.10.2022

- GeNBIS asks the name by color
- Taxon is not transferred, even though that is copied from accepted name menu

Accession	Digital Ob	Accession	Accession	Accession	Taxon	Is Core?	Status	Life Form	Level Of Improvement	Reproduc	Received	Received	Received	Is Web Vi	Note
		FIN	-1		Amelanchier alnifolia	N	Pending	Shrub	500_Advanced or improved cultivar					N	1
		FIN	-1		Amelanchier alnifolia	N	Pending	Shrub	500_Advanced or improved cultivar					N	2
		FIN	-1		Amelanchier alnifolia	N	Pending	Shrub	500_Advanced or improved cultivar					N	3
		FIN	-1		Amelanchier alnifolia	N	Pending	Shrub	500_Advanced or improved cultivar					N	4
		FIN	-1		Amelanchier alnifolia	N	Pending	Shrub	500_Advanced or improved cultivar					N	5

Accessions	Inventory	Orders	Cooperators	Source	NameGroup	Name	Accession Action	Taxonomy	GET Accession Genbis	GET code value	Accession inventory name	...									
Accession ID	Digital Object Identifi	Accession Prefix	Accession Number	Access Suffix	Taxon	Name	Geography	Maintenance Site	Is Core?	Is Backed Up?	Back: Local 1	Back: Local 2	Status	Life Form	Level Of Improvement	Reproduc Uniformity	Receiv As	Received Date Format	Received Date	Is Web Visible	Note
-2		FIN	-1						<input type="checkbox"/>	<input type="checkbox"/>			Pending	Shrub	500_Advanced ...	[Null]	[Null]	[Null]		<input type="checkbox"/>	1
-3		FIN	-1						<input type="checkbox"/>	<input type="checkbox"/>			Pending	Shrub	500_Advanced ...	[Null]	[Null]	[Null]		<input type="checkbox"/>	2
-4		FIN	-1						<input type="checkbox"/>	<input type="checkbox"/>			Pending	Shrub	500_Advanced ...	[Null]	[Null]	[Null]		<input type="checkbox"/>	3
-5		FIN	-1						<input type="checkbox"/>	<input type="checkbox"/>			Pending	Shrub	500_Advanced ...	[Null]	[Null]	[Null]		<input type="checkbox"/>	4
-6		FIN	-1						<input type="checkbox"/>	<input type="checkbox"/>			Pending	Shrub	500_Advanced ...	[Null]	[Null]	[Null]		<input type="checkbox"/>	5
-1									<input type="checkbox"/>	<input type="checkbox"/>			Active	[Null]	[Null]	[Null]	[Null]	[Null]		<input checked="" type="checkbox"/>	

Some open questions on arranging the data to GeNBIS

Cryo data management

- Is cryo data considered as a back up location for an accession? Or is it considered as another inventory under the accession?
- Are you able to handle all cryo data in GRIN Global or do you have another data information system for it?

Back up collections

- Does our backup collections correspond the back up location idea in GeNBIS/GRIN Global?
- Some of our back up collections' accessions are not exactly same accessions as in the Genebank collection at Luke. They are representing the same varieties as in the genebank.
- Some accessions are preserved only in Buck up collection (North species and one private collection)



Some open questions on arranging the data to GeNBIS

Culton name: landraces and wild clones

- We have in Finland collected landraces that have been described in the old horticultural literature with the cultivar name.
- We have given cultivar names for the wild and cultivated clones and they have been on the market by that name.
- Are these examples like varieties and can those names considered as a culton name, even if genotypes are not bred intentionally?

Evaluation data on propagative material

- Observations done from one plant collected from private gardens
- None traditional statistics can be done



Thank you!



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➤ luke.fi

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luke.fi/newsletter



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