Proposal for a Seed Certification Scheme

Abstract: Identity of reproductive material is essential in artificial forest regeneration. Legal regulations cannot guarantee proof of identity. State and private organizations have been cooperating to develop a seed certification scheme in forestry. Representative samples of forest reproductive material are taken at any production stage starting at the time of seed collection through to plant delivery as well as at time of changing ownership. The first sample at the time of seed harvest is used to determine the maximum potential yield of living germinants from the total collection. Furthermore this and the other samples are tested randomly at a determined level of intensity or in case of doubt by Isozyme/DNA methods. Sampling techniques have been tested and described in a handbook. The biochemical-genetic tests are being standardized for all major commercial species. Forest reproductive material having been sampled in the described way will be certified “of provable identity” by a neutral agency. The Scheme will be open to anyone complying with the rules laid down. Larger forest owners have confirmed to preferably purchase “forest plants of provable identity”.

Additional key words: seed and plant quality; provable identity; representative samples; isozymes

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Presentation

– The flow chart Test Samples for Provenance Identification is the general operational basis for the Certification Scheme.
– The cover (included) Leitfaden zum Probelauf “Verbesserung der Herkunftssicherheit” Baden-Württemberg und Bayern (Manual for Test Run “Improving Proof of Provenance” Baden Wurttemberg and Bavaria) gives information on the technical procedure of how to draw and ship the samples. It deals with the foremost forest tree species and is the result of three consecutive test runs. It may be amended as deemed necessary. Much attention has been given to the representativity of the samples.
– The flow chart Organization of the Certification –Draft describes the organizational bodies engaged in the Scheme. The ASSOCIATION is supposed to be founded in October 2001. Participation in the Scheme will be open to any Seed and/or Plant Producer registered in the national list. Membership in the Association is not mandatory. The following indicators are to be met:
  – The source of forest reproductive material is traceable.
  – The Scheme is connected with the Law on Forest Reproductive Material; it is based, however, strictly on civil law.
  – The Scheme is clearly defined, transparent and credible.
  – The Scheme is “slender” and practicable.
  – The Scheme is open to anybody registered nationally; free competition is safeguarded.
  – Violations are sanctioned by civil law; such sanctions on the one hand serve as a corrective, on the other hand compensate for the damage produced.
  – The Scheme is cost efficient and is financed by a higher price of the product.
  – The increased value of the product justifies its “preferred use” in the call for tenders.
The Scheme strengthens the position of the producer over that of the trader.

Outlook

At the 1911 Convention of the German Forest Association in Gdansk the forest economist Professor Endres declared that “Question of provenance is of crucial importance in forestry”. In the light of Agenda 21 of the 1992 Rio Convention and subsequent international agreements, Endres’s statement is ever so valid today. The use of adapted forest reproductive material of proven identity is a prerequisite for sustainable forest management. It is a cornerstone in the Principle of Genetic Sustainability. It is hoped that the proposed Certification Scheme will be a powerful tool to approach this objective – PER ASPERA AD ASTRA!

Leitfaden zum Probelauf

“Verbesserung der Herkunftssicherheit”

Baden-Württemberg und Bayern

Handlungsanweisung für die Referenzprobennahme bei der Saatguternste (R1, R2)

Stand: Juli 2001

The cover of Manual for Test Run “Improving Proof of Provenance” Baden Württemberg and Bavaria
Test Samples for Provenance Identification

- **Seed Harvest**
  - taking test samples (company X)
  - issue of master certificate (forest administration)

- **Procurement of Seeds by Stand**
  - company X

- **Procurement and Storage**
  - competent agency
  - company X

- **Seed Sample**
  - max. potent. yield
  - Biochem. analysis

- **Single Tree Sample R2**
  - (from different parts of crown)

- **Batch Sample R3**
  - representative sample from single harvest

- **Mixed Sample R4**
  - representative sample of mixed harvests

- **Storage**
  - company X or Y

- **Plant Production (of seeds by stand)**

- **Plant Sample P_B**
  - only on demand

- **Plant Production (from mixed lots)**

- **Plant Sample P_M**
  - only on demand

**Controlling**

- in biochem.-genetic laboratory:
  - at random or on demand biochem.-genetic comparison of:
    - *R1/R2* and R3 to seed sample in question
    - *R1/R2* and R3 to P_B
    - R4 to P_M

**By Controlling Officer:**

- plausibility check:
  - maximum potential yield of harvest according to master certificate
  - in relation to given seed lot or number of plants produced

*not with beech and oak; their biochemical sample is taken from sample R1*
Organization of the Certification

- draft -

Association
(open membership)

Advisory Board

registration

issue of ID-number

Participant
(company)

nomination

Organization Agency

information

certificates

Service Agencies
- Yield
- Storage

-GeneT Tests

information

certified (seeds) plants

Contract

Certification Agency
(free access to any field related to Certification Scheme at time of certification)

User