JRC Technical Notes

LPIS quality inspection: EU requirements and methodology

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1. Executive Summary

1.1.1. The Land Parcel Identification System is the part of IACS based on reference parcels within a GIS environment to allow the identification, location and administrative crosschecks of the agricultural parcels declared by European farmers. Any LPIS has spatial (e.g. boundary coordinates and areas) and alphanumerical attributes (e.g. unique identification, maximum eligible hectares value).

1.1.2. LPIS was originally established to administer and control area based aids (first pillar), but in practice many systems now support several aid schemes. Future reforms will probably broaden the role and thematic coverage of the LPIS. Still, this document develops a framework for inspecting the quality of these attributes relevant for the first pillar only.

1.1.3. The LPIS is instrumental in safeguarding the aid flows toward the European farmer, but to date, no common and systematic assessment of this instrument has been implemented. This document elaborates a series of quality elements that are essential for the LPIS to be able to perform its role:

- a correct quantification of the truly eligible area within the LPIS as a system;
- the assessment of ineligible land over the reference parcels;
- the categorization of reference parcels regarding ineligible land;
- the occurrence of critical defects within a reference parcel;
- the proportion of declared area over the reference parcels;
- the effectiveness of update processes regarding the LPIS system;
- the relation of LPIS quality issues with error rates observed during the on the spot checks.

1.1.4. A methodology is proposed whereby industry standard sampling plans are applied by Member States to collect objective data, using an enhanced and harmonised method, based upon data collected for the Control with Remote Sensing programme.

1.1.5. Although the tests rely on a direct inspection of external data that are available to most Member States today, these direct inspections need to be complemented by data from querying the various IACS registers.

1.1.6. The implementation of an LPIS quality assurance framework would provide to the Member States key entry points for the verification and audit of their system. But such framework would above all offer the Member States an instrument to guide the improvement of their LPIS and to streamline the IACS processes that relate to the LPIS.

1.1.7. This proposal includes one or more quality acceptance levels for most quality elements. These acceptance levels provide only a conventional target and allow for comparison between Member States performance. But as acceptance levels are set at EU level, irrespective of LPIS design or local conditions, they have to be approached with caution. Failure to meet a particular target does neither indicate a confirmed weakness nor would it automatically result in a financial correction. Still, such failure warrants closer analysis and, only when confirmed, mitigating action by the Member State.

2. Introduction

2.1. Report objectives

2.1.1. The document targets policy and decision makers. As a result, it discusses the issues at a general level without going into technical details. The two main topics are an elaboration of the LPIS properties which are considered essential for its good functioning and a methodology on how to implement and integrate an adequate quality policy within the current regulatory framework. Commission Regulation (EC) No 146/2010 is the recent regulatory update of Regulation (EC) No 1122/2009 accommodating the issues elaborated in this document.

2.1.2. Technical details on the GIS-processing, parcel inspection procedures, statistical analysis and operating guidelines are developed in separate technical documents, published on the WikiCAP pages: The "inspection method" of above Wiki articles act as the technical guideline for complying with the requirements of that Regulation.

2.2. Rationale for quality assurance

2.2.1. The importance of the LPIS comes from the requirement that it must channel all area based aids; the corresponding financial value exceeds €41B for 2009. For this specific purpose, LPIS quality can roughly be defined as the ability of the system to fulfil two explicit LPIS functions:

1. the unambiguous localisation of all declared agricultural parcels by farmer and inspectors,
2. and the quantification of all eligible area for farmer declarations and crosschecks during the administrative controls by the paying agency.

2.2.2. Failure of an LPIS in the unambiguous localisation induces risks for double declaration of land and for ineffective inspections; inadequate quantification of eligible area renders the crosschecks ineffective for preventing and identifying over-declarations by farmers. Both failures involve financial risks for the EU Funds.

2.2.3. Furthermore, any well functioning LPIS will greatly facilitate operations by farmer, inspector and paying agency, resulting in a better performance. Obviously, a better LPIS substantially improves IACS effectiveness and management of EU Funds.

2.2.4. Both Member States and the EU have therefore a keen interest in demonstrating the quality of the LPIS and on addressing quality issues, if any. Such processes of planned and systematic quality demonstration form the hearth of a quality assurance (QA) system. A QA framework relies on mutually agreed quality testing between "consumer" (the European Commission) and "supplier" (the Member State). A test or series of tests assesses compliance for each specified quality requirement.

2.2.5. This document distinguishes between "prime" and "secondary" quality elements. The prime elements are those that the European Commission considers fundamental for a correct LPIS operation and which are applicable to all LPIS systems. Secondary quality elements might not be applicable for all systems, but may provide additional substantive indications for analysing and remediating issues identified on the prime quality elements.

2.2.6. All tests have been developed into quantitative measures and the test results therefore represent an objective and comparable information on the different LPIS. The main application of this quantitative information is to provide an instrument for achieving business process improvement. Essentially, the proposed quality assurance framework constitutes a yearly check-step within the commonly known plan-do-check-act (PDCA) cycle.

3. Seven prime quality elements

Each prime quality element is described by:

- definition or concept;
- rationale as prime element;
- discussion and/or compliance threshold;
- method to make the assessment;
- and proposed acceptance level.

3.1. The correct quantification of the maximum eligible area

3.1.1. The maximum eligible area is the recorded quantity of land for which farmers can, from a land cover perspective, apply for aid under SAPS / SPS.

3.1.2. The importance of this maximum eligible area value for a system implemented to administrate and control area-based aids is evident. The maximum eligible area value should be correct so that a system does not record more area than is eligible for aid and does not exclude agricultural land from being declared for aid.

3.1.3. The total eligible area can easily be calculated by summing up the recorded maximum eligible area of every reference parcel, over all reference parcels that are declarable for aid or other use. The key concern is the correctness of the values of maximum eligible area recorded in the reference parcels. These values have been originally assessed by mapping agricultural land during the creation of the LPIS by January 2005 or 2007, but have, or should have been, updated to reflect changes of underlying land. Update actors are farmers, inspectors and database maintenance operators (e.g. using newly available orthoimagery). Apart from changes of the land, some types of agricultural land have, since the LPIS creation, become eligible because of Regulation reforms.

3.1.4. The unbiased estimate of the current maximum eligible area in the LPIS can be obtained from measuring the current day area of agricultural land within a random and representative sample of parcels. The rate of truly eligible land to recorded land in the sample estimates the rate of correct eligible land in the LPIS. This rate can be extrapolated into an absolute area value.

3.1.5. The differences between eligible land and recorded land in the LPIS parcel have to be added up in absolute terms and should be less than 2%

3.2. The proportion and distribution of reference parcels where the maximum eligible area takes ineligible areas into account or where it does not take agricultural area into account

3.2.1. Reference parcels allowing payment on ineligible land are those parcels that record more eligible land than is physically available on the ground. Reference parcel that exclude agricultural land record less agricultural land than is physically available.

3.2.2. The distribution of reference parcels with incorrect recorded value of maximum eligible area within a random sample provides a direct indication of the statistical spread, nature and size of the quality problem. E.g. if all reference parcels are “contaminated” with ineligible land, a general methodological problem seems very likely; on the other hand, if only a small proportion exhibits such problems, the issue could be more specific in nature.

3.2.3. Understanding whether an identified problem is systematic or specific in nature is essential for the development of a corrective plan. A distribution of the abundance of the ineligible land inside the parcels provides an even better insight. To be included in the “bad side” of the proportion, a parcel must record more than 3% ineligible land or exclude more than 3% agricultural land (3% is the threshold above which deductions for over declaration would apply when the reference parcel were fully declared for aid as a single and individual agricultural parcel).

3.2.4. The proportion and distribution of parcels allowing undue payment on ineligible land or excluding land from aid application can be easily derived from identifying such parcels from the sample for measurement of eligible area of 3.1.4 above.

3.2.5. The proportion of parcels with an incorrect maximum eligible area should not exceed 5 %. There is no predefined conformance threshold for the distribution; the distribution primarily serves as a source of information.

3.3. The categorisation of reference parcels where the maximum eligible area takes ineligible areas into account or where it does not take agricultural area into account (and reference parcels with critical defects);

3.3.1. The categorization differentiates the non-conforming and defective reference parcels along the underlying cause(s) of the problem.

3.3.2. Addressing LPIS quality problems, whether methodological or specific, requires that the cause of the problem is identified and understood. Ineligible land may have entered the system through a series of paths and the problematic paths must be understood and addressed before any remediate action can be planned. The cause of an LPIS problem can always be attributed to one or more of six generic processes. The list is considered exhaustive.

1. regulatory bans prevented upkeep (e.g. a historic GAC mask prevents increasing the maximum eligible area of a reference parcel even if more land became available);
2. changes of the underlying land were not applied (e.g. inspector findings were not introduced in the update process);
3. revisions of the Regulations were not applied (e.g. LPIS specification was not upgraded);
4. incomplete processing (e.g. some land uses/covers or lands were not included);
5. erroneous processing (e.g. the specifications were not correctly applied);

6. incompatible LPIS design (e.g. the particular issue had not been considered earlier).

Member States can and should further analyse and subdivide each generic cause to detect which sub-processes account for most of the problems and to prioritize and model any remediating action.

3.3.3. The current Regulations do not specify a requirement for this categorization of anomalous parcels by the cause of the anomaly, but the general idea is clearly implied by the good governance principle.

3.3.4. The occurrence and abundance of parcel categories can be established by making structured observations during the sample inspection of 3.1.4. This process involves verifying the reference parcel against all supporting documentation (e.g. original cartographic source, inspection reports, and other metadata). If the nature of the cause can not be precisely identified, this should be considered a design issue.

3.3.5. Apart from the regulatory ban, none of the above categories should affect more than 5 percent of the sampled parcels.

3.4. The occurrence of reference parcels with critical defects

3.4.1. Critical defects are non-compliances with the specifications that obstruct the use of the parcel regarding either the functions of unambiguous localisation of agricultural parcels or the unique identification for crosschecks of declarations. Some examples of a reference parcel defect on its use are:

1. Failure to unambiguously locate agricultural parcels (e.g. reference parcel unidentifiable in the field);
2. Failure to uniquely quantify eligible area (e.g. topologic overlap between reference parcels);
3. or Failure to perform administrative crosschecks (e.g. non-persistent identifiers).

3.4.2. Defective parcels clearly jeopardize the integrity of the LPIS information. They often indicate critical design issues and failure of system monitoring. Although, the concept of defect is dramatic, they can be easily detected and appropriate remediating actions to prevent these parcels from operating in the system and entering the scope of the LPIS quality assessment can be taken.

3.4.3. The occurrence of any critical defect should thus ideally be discovered and addressed during the daily operation and systematic inspection of the LPIS and thus prevent such parcels to enter the scope of this quality assessment. On those who can be subject to inspection, six conditions have been identified that represent a failure of a correct use of the RP. Some conditions are inevitably LPIS-design dependent. Defective parcels are those

1. where eligible area is completely absent (all systems)
2. with a completely virtual perimeter that crosses ineligible land (all systems);
3. with a visible land use merging into at least two neighbouring reference parcels.(block systems created without farmer input)
4. with a visible land use extending into agricultural land not registered in the LPIS (all block systems)
5. representing multiple, disjoint production blocks (all block systems)
6. representing an amalgamate of at least 10 separate production blocks (all block systems)

3.4.4. Critical defects are detected by verifying whether the particular defective conditions are clearly visible during the inspection procedure.

3.4.5. In an operational LPIS that is applied to 100% of agricultural parcels and declarations, there should be zero critical defects for the reference parcels that represent eligible hectares. However, for the purpose of the quantitative LPIS measurement, defects should not affect more than 1 percent of the sampled parcels.

3.5. The ratio of declared area in relation to the maximum eligible area over the reference parcels

3.5.1. The declared area inside the reference parcel provides an indication of the ability of the reference parcel to facilitate correct area declarations by *bona fide* farmers and to prevent aid declarations by *male fide* parties. This declared area covers both aid schemes and other uses and represents the total agricultural land "use" administrated and controlled within IACS.

3.5.2. Farmers may choose not to apply for direct aid and still farm the land while keeping it under GAEC, this make the hectares potentially eligible. A good administration should ensure that farmers are able to declare all the used land and should prevent that other farmers who have not performed any agricultural activities on the land apply for aid on that land.

3.5.3. Without sketched maps, undeclared farmed land cannot be distinguished from declared land. Application for aid is indeed a land use or economic concept rather than a land cover or biophysical concept. Preventing *male fide* applications requires that the pre-printed form provides each farmer with an effective value of land available for declaration and that the Member States operates a control system based on the monitoring of the declared area versus reference area relationship and behaviour from one year to the next, Specific procedures should be activated when the declared to eligible ratio changes. This monitoring implies that the LPIS identifies those reference parcels which were not declared for aid or for other uses and that it quantifies the agricultural area declared for aid within each RP.

3.5.4. The declared to eligible area ratio can be generated by compiling the area declarations over all inspected reference parcels, that are not subject to any parcel non-conformity, comparing the resulting sample ratio with the ratio calculated over all applications within IACS for the assessment year. As there are many variables which are not directly attributable to the quality of individual reference parcels, that might affect the ratio of the sample, no quantitative expectation on that ratio is formalised. The resulting ratio should however be an indicator for the Member State enabling further assessment and possibly actions to deal with related risks.

3.5.5. Member States shall report the ratio of declared area to maximum eligible area of the conforming parcels in the sample and the global ratio of all applications.

3.6. The percentage of reference parcels which have been subject to change, accumulated over the years

3.6.1. Update (or more general upkeep) processes are instrumental to ensure the currency of the data, ensuring that the information stored in the LPIS corresponds to the actual situation in the field. Update

in the stricter sense relates to dealing with the permanent physical changes of the land that impact on the IACS in general and eligibility of the land in particular.

3.6.2. Implementing update processes is the main challenge of any LPIS custodian. Comm. Reg. EC 1122/2009 contains elements that relate to the roles of three distinctive LPIS update actors:

1. The farmer must indicate reference parcel boundary changes and area corrections (art 12.4)
2. The inspector must indicate further control measures from his findings (art. 32.1.(g))
3. The LPIS custodian and paying agency must monitor and address overall LPIS quality issues (art. 6.2.). Such upkeep activities involve a cyclic refresh based on a regularly renewed orthoimagery and the sporadic integration of targeted updates by data providers such as mapping agencies and other administrations (transport, land registry).

When all these update activities fail, the Member States will have no option but to launch a costly and traumatic "system refresh" to bring the LPIS back in tune with the terrain reality.

3.6.3. As indicated above, there are several aspects to this update process, but crucially is of course the dynamics in the field. The Member State should implement appropriate upkeep processes to monitor the land change and to guarantee the currency of its registers. This relies on both daily update processing and monitoring the need to launch a systematic refresh.

- Daily update processes should enable the Member State to keep pace with the land changes for those parcels where update information became available from boundary corrections indicated by the farmer, land changes observed during on the spot inspections, exchanges of land changes registered by third parties and any other change found on recent orthoimagery. These daily activities should process any available updated information to be ready by the next aid application.
- But when a significant proportion of the parcels is estimated to have undergone changes that were not addressed by the LPIS custodian, launching a systematic refresh using appropriately recent data source (in preference orthoimagery) should be investigated.

3.6.4. The effectiveness of the daily update processes in the LPIS can be derived from the categorisation on the non-conforming and defective reference parcels (3.3.2 above). Those reference parcels where "changes of the underlying land were not applied" indeed account for everything that slipped through the daily processes since LPIS creation or the last update. From this account, the rate of annual land changes can be calculated.

3.6.5. As soon as the cumulative change rate exceeds 25 percent, the need to launch a systematic refresh should be investigated. This 25 percent is calculated by adding up, year after year, the observed rate of annual land changes

3.7. The rate of irregularities determined during on-the-spot checks

3.7.1. The OTSC represents an independent external verification of the final outcome of the aid application process and of the role of LPIS herein.

3.7.2. The integrated nature of all control registers is implied in the “IACS” name and compatibility of databases is explicated in several articles of Council Reg. EC 73/2009.

3.7.3. Irregularities identified during the OTSC can reflect shortcomings of the LPIS. This relation can be assessed either qualitatively (e.g. abundance of error categories) or quantitatively (i.e. what is the proportion of ineligible area in the reference parcel that has actually been identified during the OTSC). A good LPIS should ensure there is no “area not-found” on the reference parcels and, since it is a support tool for aid applications, it should not induce irregularities of the applications.

3.7.4. Assessing the relationship between the LPIS and the application irregularities is therefore not relying on an additional observation of the parcels but on studying its performance as an effective tool for supporting correct aid applications. This effect is analysed by statistically testing whether the rate of applications with irregularities, determined in the selection for the OTSC of the year concerned, is dependent of neither on the presence of area non-conforming nor defective reference parcels. The Member States shall report the difference between the error rates of the two groups of applications

3.7.5. The error rate of identified irregularities in the inspected applications shall not be significantly affected by the occurrence of parcels with incorrect maximum eligible area and/or potentially defective parcels. The test significance is derived from the chi-squared probability distribution.

4. Secondary quality elements

A number of secondary quality elements can be identified which, from a Commission viewpoint, provide substantive indications and insight for the Member States concerned regarding the causes of identified LPIS issues. These secondary elements are not embedded in the Commission Regulation (EC) No 1122/2009.

4.1. Historical perspective

4.1.1. The historical GAC mask, applicable for SAPS schemes with a historical reference date, introduces an institutional discrepancy between the current field conditions and final scheme eligibility. It is therefore integrated in the inspection methodology.

4.1.2. For other schemes, the historical perspective provides insights regarding discrepancies that can be attributed to the quality of the geographic source material and the past technology choices still affecting the system.

4.1.3. This non-quantitative quality aspect helps the Member State to position itself within the community of fellow Member States by assessing its use of technology and tools, the effects of source material and the application of best practices in order to develop an appropriate upgrade strategy when needed.

4.2. Reference parcel scope

4.2.1. IACS contains the historical records of the reference parcel use (declaration) by the individual farmer. Studying the relation between number of the farmers per reference parcel and observed error rates on the aid applications for LPIS parcels can identify reference parcel design issues.

4.2.2. Similarly, the number of agricultural parcels per reference parcel is precisely known within the IACS registers; if too high, agricultural parcel localisation might become very complicated. Studying this distribution of agricultural parcels and the rate of irregularities might reveal other design issues.

4.2.3. Both these issues look into the degree of multiplicity, which, as mentioned in paragraph 3.4.3, potentially complicates system operations.

4.3. Sub-populations of reference parcels

4.3.1. Any sample based inspection relies on the homogeneity of the population under test. Heterogeneity in the LPIS reference parcel population strongly and adversely affects the outcome and usefulness of the inspection procedure proposed in this LPIS QA framework. When the homogeneity of a LPIS is not taken for granted, separate inspections for the respective sub-populations need to be organised.

4.3.2. When inspection results are unfavourable, the assumption of heterogeneity should be verified and if challenged, the probable subcategories should be identified in the analysis of the results. Indicating the subcategories and studying the respective histograms provides an understanding of the parcel sub-populations and provide input for further handling, for example:

- mountainous or grassland parcels may be different from arable land parcels,
- different contractors may have created regional variation within the LPIS data sets,
- sections of the LPIS may have been subject to refresh activities where others were not

5. Reference parcel inspection methodology

The proposed inspection methodology to obtain quantitative measurements for the prime quality elements covers five components:

- provision of independent source data to perform an external inspection;
- creation of a representative sample;
- standardised inspection procedure to collect test data;
- processing and analysis of the observed data;
- reporting procedures and guidelines.

5.1. Definition of the LPIS population subject to inspection

5.1.1. Considering that 1) LPIS operates at reference parcel level, 2) LPIS serves as the single GIS for IACS data and 3) this quality assessment focuses on eligibility for direct aid schemes; any reference parcel that is mentioned on the farmer's application shall be subject to inspection.

In practice, this LPIS QA scope translates into reference parcels that:

- were declared for aid or for other uses during the previous application year

OR

- hold a non-zero "maximum eligible area" ; i.e. the parcel can appear on a pre-printed form or is able to re-enter an application without triggering an additional verification procedure.

5.2. External data for observations

5.2.1. To be resource efficient, it is proposed to build the framework upon existing datasets not older than a year; this could be either satellite imagery collected under the CwRS program or other remote sensing datasets (e.g. airborne) collected by Member States. The data specification roughly corresponds to VHR quality as used for the CwRS program, and follows INSPIRE implementing rules and ISO19100

series standards. Given an appropriate image quality, it is not expected to conduct substantial ground collection specifically for the exercise or to use any archive data.

5.2.2. As the CwRS measurement of agricultural parcels is less demanding than the reference parcel inspection of the LPIS quality assessment, the Commission services recognises that some of the CwRS imagery will not meet the LPIS recommendation. It therefore allows the Member States to discard CwRS zones where imagery acquisition did not yield the recommended LPIS QA specifications. It also allows MS to apply imagery acquired by the Member States outside of the CwRS program.

5.2.3. Some Member States prefer to make the inspection based on GPS field measurements. This alternative data collection has been proven to be equally effective under condition the (adapted) inspection methodology is meticulously followed. A field inspection method is however to be less cost-efficient than the image based inspection.

5.3. Parcel sampling

5.3.1. To support a representative sample, the external data should be independent of the LPIS creation and maintenance processes. CwRS zones defined under random selection or within risk zones that are defined in terms of farmer declaration characteristics, independent of any reference parcel characteristic can be considered equally random for the LPIS assessment. When the homogeneity of the LPIS is not taken for granted, the Paying Agency can consider stratification of the sites and create separate lots. Within the zones covered by imagery, the Industry standard ISO2859-2 offers a simple sampling plan indexed by lot (= LPIS) size and Limiting Quality (LQ).

5.3.2. Larger sample sizes coincide with larger LPIS or with stricter requirements on the quality element. The following table lists the sample size for a homogenous LPIS according to the requirements currently proposed for the prime quality elements (3.1 to 3.7):

LPIS size (# of reference parcels per lot)	Sample size (# of parcels to be inspected)
10.000 or less	200
10.001 to 35.000	315
35.001 to 150.000	500
150.001 to 500.000	800
more than 500.000	1250

5.3.3. To facilitate randomness of this small sample, the Commission services offer an online selection service that selects the parcels for inspection from the Member State's population.

5.4. Parcel inspection

5.4.1. A series of observations reflecting all the quality elements is to be collected by a detailed inspection of each individual reference parcel. This involves a common specialized inspection procedure (in fact a mapping procedure), but offers individual acceptance decisions on conformity of quality elements, triggering the need for an additional explanation. This provides a modular and extensible setup that offers extensive insights to the Member State on the quality of its LPIS.

5.4.2. The inspection procedure details common CAPI rules on how the Member State interprets, measures, counts, classifies or codes an inspected parcel within its resident GIS environment. In view of the relatively small samples in relation to the population size as called for by ISO2859-2, accurate and precise inspection and measurement are essential and all image interpretation ambiguity should be

resolved, either through the use of appropriate complementary VHR/HR imagery and/or through a Rapid Field Visit (RFV). For some measures, cross-checking with ancillary data and metadata is explicitly specified.

5.4.3. On average, a trained CAPI operator can be expected to inspect 50 to 100 reference parcels a day within a familiar GIS environment.

5.4.4. A field inspection variant of this method is available.

5.5. Analysis

5.5.1. The acceptance decision rules and acceptance thresholds for each quality measure are applied on the complete sample based on the observations collected during the inspection process. These rules might be mechanical in nature (implemented in software or in a database), and it is proposed that standardised exchange formats (XML) and database interfaces (SQL) are applied for the analysis. This standardisation is required to enable the exchange of both data and software tools.

5.5.2. Note that the mechanical processing with shared tools implies that the collected observations are used to assess the performance of the existing LPIS towards common requirements ("fitness for purpose") rather than to verify the LPIS's compliance with the technical specifications applied for its original creation ("meeting its specification"). This places the current framework in a more pro-active context of improving the future LPIS, rather than a corrective process of compliance monitoring.

5.6. Reporting

5.6.1. As the Member States perform the actual assessment, all relevant documentation of the inspection procedure should become available for information and later verification (audit). Standardisation allows for easy exchange and screening of the data collected during the quality assessment process.

5.6.2. This comprehensive reporting is organised through a four step exchange mechanism

- two scoreboards with the summary of observation findings,
- an assessment report or a textual analysis of these findings,
- a remedial action plan or textual description of remedial actions following the analysis above,
- several data packages; technical archives holding the complete observation data sets.

6. Organisational issues

6.1. Implementation and planning

6.1.1. The LPIS quality assessment should be implemented once a year, as currently provided for under Commission Regulation (EC) No 1122/2009. As the availability of CwRS imagery conditions the implementation, the CwRS cycle provides a well-established frame for image capture and time schedule. There are only a few specific activities.

1. The JRC will technically verify the appropriateness of the CwRS site selection proposed by the Member State for use in the LPIS inspection (and complement the selection when appropriate).

2. A sampling plan (list of parcels to be inspected) for the Member State will be provided by an online service.
3. The Member State performs the LPIS inspection in parallel with its OTSC activities.
4. The Member State prepares the reports and data packages and submits them to the Commission.

6.1.2. This LPIS quality report should be due by January 31st following the application year concerned, enabling the Member State to report on the design and implementation of proposed actions and mitigating procedures to overcome any identified weaknesses.

6.2. Financial implications

6.2.1. On the assumption that the majority of existing CwRS images will be suitable, with a current coverage of 25 MS and 80% re-usability, the acquisition cost of additional imagery dedicated for the LPIS quality assessment can be roughly estimated to cover an additional 10 Paying Agencies. As this additional imagery meets the conditions of Articles 1 and 2 of Council Regulation No 165/1994, the European Commission could acquire it on behalf of Member States and combine the image acquisition for both control applications into one acquisition programme as a convenient, efficient and low risk solution.

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The LPIS is instrumental in safeguarding the aid flows toward the European farmer but to date, no common and systematic assessment of this instrument has been implemented. This document elaborates a series of quality elements that are essential for the LPIS to be able to perform its role. A methodology is proposed whereby industry standard sampling plans are applied by Member States to collect objective data, using an enhanced and harmonised method based upon data collected for the Control with Remote Sensing programme. Although the tests rely on a direct inspection of external data that are available to most Member States today, these direct inspections need to be completed by data from querying the various IACS registers.

The implementation of a LPIS quality assurance framework would provide to the Member States key entry points for the verification and audit of their. But such framework would above all offer the Member States an instrument to guide the improvement of their LPIS and to streamline the IACS processes that relate to the LPIS.

This document documents the LPIS QA framework as it developed since the first implementation during 2010.

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