

ANNADARPAN^{SMART} & ANNADARPAN^{DYNAMIC}

Machine Vision Solution for Quality Analysis of Food Grains & Pulses

ANNADARPAN system addresses problems of the Food Storage and Safety Industries (such as FCI, State Agricultural Marketing Board, APMCs, Mandies, etc.) where rapid quality estimation is an issue for bulk procurement of rice and pulses on daily basis. Physical quality of rice is characterized by three principal quality attributes, namely, appearance, aroma and taste. Rapid estimation, characterization and quantification of appearance of rice and pulses have been unmet challenges for the agricultural scientists. Appearance based quality parameters of rice are big broken, small broken, damage, discolour, red grains, chalky grains and admixtures. The quality of pulses are assessed by the presence of damage, discolour, admixture, immature grains, etc.

Presently the quality of rice and pulses are measured manually by observing each grain individually. The manual quality measurement process is time consuming, laborious, subjective, non-repeatable, lacks reproducibility.

C-DAC Kolkata's ICT based Solutions:

Annadarpan^{SMART}

- ⊙ Computer operated table-top portable system.
- ⊙ Overhead scanning device with built-in LED based controlled illumination.
- ⊙ Detachable metallic enclosure and Large sample handling tray.
- ⊙ Computer interfacing through USB
- ⊙ Manual sample spreading.
- ⊙ Non-invasive image analysis technology.
- ⊙ Crop specific software with user friendly graphical interface for online image capturing, analysis.
- ⊙ Report generation, searching, printout and email facility.
- ⊙ Operated with computer with Windows® Operating System.



ANNADARPAN^{SMART}

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- ⊙ Bench-top mini conveyerised system.
- ⊙ Automated sample spreading.
- ⊙ Crop specific add-on mechanical attachment for sample spreading.
- ⊙ Overhead scanning device with built-in LED based controlled illumination for image acquisition.
- ⊙ Flexible Sample size and Non-invasive image analysis technology.
- ⊙ Computer based automated image capturing and analysis solution.
- ⊙ Automatically stop the system operation when analysis is over.
- ⊙ Crop specific software with user friendly graphical interface for online image capturing and analysis.
- ⊙ Report generation, searching printout and email facility.
- ⊙ Operated with computer with Windows® Operating System.



ANNADARPAN^{DYNAMIC}

Benefits:

- ⊙ Meet requirement of crop specific quality standards of FCI, AGMARK etc.
- ⊙ Useful and appropriate quality data made available to remote users on virtual marketing platform with nationwide outreach.
- ⊙ Ensure right price of commodities to farmers and shield them from intermediaries.
- ⊙ Ensure transparency of dealings at all levels of Agri-marketing.

Target Beneficiaries:

- ⊙ APMCs and Mandies
- ⊙ Agricultural traders
- ⊙ Commercial agriculturists
- ⊙ Govt. authorities and stakeholders of Agri-marketing at all levels.



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