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Best moisture tester

Farmers may not have been too excited about replacing their old moisture meter with a new one during harvest season, but investing in a reliable tool for optimal drying and water conservation could bring significant cost savings. When browsing online options ranging from £250 to over £1,000, it can be overwhelming to choose the right model. To help farmers make an informed decision, we reviewed eight popular moisture meters by putting them through rigorous testing on various crops. We first put each meter to the test on our own farm using a bucket of wheat to gauge ease of use and consistency of readings. The results showed significant variation in accuracy between different models. Next, we attended a moisture meter clinic hosted by Dengie Grain near Maldon, Essex, where grain testing expert Jo Cauvain helped us fine-tune the meters' performance. The clinic revealed that some meters were off the mark initially but improved significantly after adjustments. Two standout performers were the Protimeter and Unimeter Digital, both calibrated in the UK and boasting high accuracy rates. However, it's essential to note that calibration can greatly impact a meter's effectiveness. The Wile 78 was a top-notch option for oilseed grinding, boasting ease of use that outshone its competitors. The built-in scoop and smooth-turning grinder mechanism made quick work of sample preparation, with the added bonus of a clear backlit screen for effortless reading. A sturdy carrycase rounded out the package, complete with space to stash a Wile 65 meter. Calibration tweaks were a breeze, but don't expect it to be as fine-grinding as some other models. The Unimeter Digital, on the other hand, stood out for its robust grinding mechanism and exceptional accuracy - albeit requiring a bit more elbow grease. While not perfect, both meters offered reliable performance and a user-friendly interface that made them stand out in the market. The Protimeter Grainmaster i-S is a highly accurate moisture meter designed by Martin Lishman, with a claimed accuracy of +/- 0.5%. It features a detachable grinder and compressor unit, which can test fifteen pre-programmed crops and has thirty reference calibrations. The device also includes optional external probes for measuring moisture and temperature. The grinder and compressor unit may require some practice to use effectively, but once mastered, it is easy to operate. However, the 10ml sample size spoon can be easily lost, and the blades do wear out over time if not replaced. Despite its ease of use in terms of box design and calibration, there are some drawbacks, such as the need for careful adjustment of calibrations and the potential for grinding and compressing to be less efficient compared to other devices. Case: The Mini Gac Plus comes with a small, hard plastic case that holds all its components together. Calibration Process: You can calibrate this device for different crops, but it's essential to follow the instruction book closely to avoid any mistakes. From Farm-Tec Battery: 4 x AA Price £295 plus VAT Verdict: We shared our thoughts on the Riceter with some experts, and while they didn't exactly rave about it, we actually enjoyed using it. The display was incredibly clear, and the small sample size meant you didn't have to spend hours testing samples. Likes: * The clearest screen on test * Easy to crush and compress samples * Quick results Gripes: * Small sample size may not be representative of larger amounts * Difficult to alter crop calibrations without proper instructions Whole-Grain Moisture Meters: These devices compress the grain sample to get a reading, eliminating the need for grinding and cleaning up afterwards. They work well with conditioned grain but might be less consistent during harvest time when moisture content varies. Sampler Type: Compressing head Sample Size: 65ml Manufacturer's Claimed Accuracy: +/- 0.5% Crops it can test: Sixteen pre-programmed crops Additional Features: * Calculates test averages * Optional temperature probe * Moisture measurement range: Grains - 8-35%, Oilseeds - 5-25% Ease of Use: Simple - just scoop crop into the chamber, level off, and turn the lid until it's flush with the top. Then, use two buttons to choose the crop type and perform the test. Carrycase: Thin plastic box Calibration Process: Calibration for each crop is quick and easy to adjust, but be careful not to erase them by mistake. From APM Price £335 plus VAT Verdict: The metal body is small, easy to hold, and feels tough enough to carry around without the case. The compressing head is well-made, and it didn't get clogged with grains. The screen could do with a couple more buttons, but some readings were a bit erratic. Likes: * Really easy to use * Handy size * Good build quality Gripes: * Slightly old-school display * No backlight on the screen * Easy to adjust calibrations by mistake The Mini Gac Plus stands out from other whole-grain meters due to its specific weight calculation and numerous extra features. However, this comes at a cost, making it more suitable for grain stores rather than field use. Users must adjust to a larger sample size and time-consuming empty cell tests before each reading. The device's size and complexity may deter some users. The Agripro 6095, on the other hand, excels in terms of portability, with its compact design and lightweight construction making it ideal for handheld use. Despite its ease of use, the compressor mechanism proved to be less robust than expected, causing grains to get stuck inside. The device's premium price tag is also a drawback. The MT-Pro offers an impressive 49 pre-programmed crops and features a backlit display for improved readability in low-light conditions. Its compressing head design allows for quick sample loading, but the device's size and weight may make it less convenient to carry around. Overall, each meter has its unique strengths and weaknesses, making them suitable for different user preferences and needs. The MT-Pro meter has a user-friendly design with a sample cell similar to other models like Agripro and Wile 65. However, it's not perfect - the extensive list of crops on display can be tiresome to browse through, especially for UK users who need to adjust settings accordingly. The meter comes with a protective carrycase and has an adjustable calibration process that can be accessed via the screen. Despite being the cheapest option at £246 inc VAT, the MT-Pro feels a bit flimsy compared to its competitors. Its multiple buttons attempt to simplify navigation but ultimately make menus more complicated. A few essential tips for achieving accurate moisture readings are: checking your meter annually against test samples or at a clinic, learning proper usage, ensuring all residues are removed before testing new samples, and taking multiple readings with a 0.5% safety margin in mind. On the other hand, avoid storing your meter in direct sunlight or air-conditioned spaces, using dirty samples, handling samples carelessly, or continuing to use damaged meters. The article highlights that moisture meters come in two main types: pin and pinless. Pin meters are ideal for materials like wood where surface moisture isn't indicative of internal moisture, while pinless meters use electromagnetic sensors to measure moisture without penetration. Moisture meters measure moisture content in materials, suitable for finished products or delicate surfaces. Choose a pin meter for porous materials and a pinless meter for non-invasive testing on finished surfaces. The measurement range indicates the percentage of moisture content detectable, varying by material - e.g., wood (5-30%) and concrete (0-6%). Select a meter with a suitable range for your test materials. Accuracy refers to how close the meter's readings are to actual moisture content, crucial in construction or woodworking. Meters may offer adjustable settings for different materials, ensuring accurate readings.