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FREE RANGE HENS... FOR BETTER EGGS

HAVE YOU EVER GIVEN MUCH THOUGHT TO THE QUALITY OF EGGS? ARE YOU AWARE THAT THEY CONTAIN SUBSTANCES WHICH ARE BENEFICIAL TO YOUR HEALTH? THE CRA-W TAKES A CLOSER LOOK IN THIS ARTICLE.

Eggs are the most consumed animal product in the world and an essential part of our diet. Ensuring their quality is vital for consumer well-being, as they are a source of many nutrients, such as omega-3 fatty acids, with positive effects on human health.

Equol is another compound that has interested researchers for several years. This microbial metabolite is only found in fermented foods and animal products. It has a powerful antioxidant effect and may prevent several hormone-dependent cancers. In the West, only a small proportion of the population is able to synthesise it, so ensuring that it can be obtained through dietary means would be highly beneficial.

As part of the PhytoHealth project, preliminary trials were conducted under controlled conditions on laying hens. The results show that hens ingesting legumes produce equol-rich eggs. The CRA-W has therefore invested in a number of small poultry houses so that tests can be carried out under real farming conditions. A total of eight plots have been made available to the hens, each containing a different vegetable cover. Purple clover appears to be the most suitable plant species for producing equol-rich eggs.

Such research highlights both the health benefits which can be obtained from such eggs and the value of open-air poultry farming. This represents a response to genuine demand from the public for production systems that are both more environmentally friendly and more animal friendly. Access to an outdoor area represents a real improvement to the welfare of hens, which are better able to express their natural behaviour, such as pecking and scratching at the soil.

The results of this project under both controlled and real conditions are expected in 2018.

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VARIETIES: A DECISIVE FACTOR IN THE SUCCESS OF ORGANIC CROPS

IN ORGANIC AGRICULTURE (OA), THE KEY TO SUCCESS LIES IN PREVENTION, AN AREA IN WHICH THE CHOICE OF VARIETIES IS OF PARAMOUNT IMPORTANCE.

In addition to its importance for crop quality, ability to compete with weeds, and lodging resistance, the choice of cereal variety is often the only tool available to combat the development of diseases. For several years, the CRA-W, in partnership with the Liège Provincial Centre for Plant and Vegetable Production (CPL-Vegemar) and the Centre for Agronomy and Agro-Industry of the Province of Hainaut (CARAH), has been running a network of trials for wheat, triticale and spelt varieties in order to provide farmers with standard varieties for organic farming conditions.

These data from several years of testing allow us not only to identify varieties which are adapted to OA and its specific characteristics – through resistance to diseases, ability to compete with weeds, ability to thrive with sometimes limited access to nutrients, lodging resistance in the absence of growth regulator, etc. – but also, in the case of wheat and spelt, to assess their suitability for baking in a context of increasing demand for breadmaking cereals.

Among the varieties tested over the last three years, the Renan, Lennox and Oxebo wheat varieties have very similar disease resistance profiles but give very contrasting yields. Oxebo is a highly productive variety which has poor breadmaking qualities, while Renan is the exact opposite. Lennox, on the other hand, is an intermediate variety, which offers an acceptable level of quality without too much compromise in terms of yield. Farmers interested in growing breadmaking cereals need to identify a variety that will present high quality consistently over time, in order to meet the expectations of the industry.

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SIEVING PIG AND POULTRY FEED AT THE CRA-W

GRANULOMETRIC ANALYSIS IS AN ANALYTICAL TOOL AVAILABLE AT THE CRA-W TO IMPROVE THE TECHNICAL AND ZOOTECHNICAL QUALITIES OF PIG AND POULTRY FEED.

The purpose of granulometric analysis is to determine the mean size and distribution of the particles that make up the feed. It plays an important role with regard to the physical characteristics of feed in the form of flour: the stability of mixtures, flow in hoppers, dust emission, grinding costs during manufacture and granule solidity. It also influences livestock's zootechnical performance: nutrient digestibility, constipation and consistency of faeces, formation and severity of gastric ulcers, prevalence of salmonella in pigs, and rate of consumption and adaptability in poultry.

Sieving is one of the oldest methods of granulometric analysis, and also one of the most widely used, as it is inexpensive. The basic principle consists of separating a pulverulent sample by passing it through several sieves whose characteristics are known. The operation determines the average particle size, the homogeneity (or heterogeneity) of the sample and the distribution of different-sized particles. In the context of the BIO2020 programme on the characterisation of feeding practices in organic pork production, a granulometry procedure was applied (E. Royer, 2002-Ifip, Institut du porc). An analysis report could then be produced for pig or poultry feed in the form of histograms and graphs.

The grain size was determined for 36 samples of organic pig feed. The results showed an average grain size that was too high for fattening pigs and too low for sows, with the heterogeneity of the samples increasing with average particle size. Very often, there were too many fine particles. Additionally, seven of the feeds for fattening pigs were too coarsely ground.

This analytical tool remains available to operators in the sector, to help improve the quality of the grinding process, which is essential for extracting the maximum value from feed.

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WATCHITGROW: A REVOLUTIONARY LEAP FORWARD FOR THE BELGIAN POTATO INDUSTRY!

WITH A POTATO PRODUCTION RATE OF AROUND 400 TONNES PER 1,000 INHABITANTS, BELGIUM IS THE FOURTH LARGEST PRODUCER IN THE WORLD. BETTER STILL, IN TERMS OF YIELD AND VOLUME OF FROZEN PRODUCTS (E.G. CHIPS), OUR COUNTRY IS NUMBER ONE!

In order to remain at the forefront of innovation, the potato processing industry is always on the look-out for new technologies to improve every aspect of its activity, from production to processing. Better monitoring of crop growth improves productivity and product quality while also improving the supply to factories and reducing economic risks.

WatchITgrow is a new geo-information platform developed for the potato sector based on the joint use of satellite and aerial imagery (drones), meteorological data and results from crop growth models.

With this tool, Belgian producers as well as traders and organisations in the sector can obtain relevant and understandable information, almost in real time, on the growth of different varieties (Bintje, Fontane and Nicola) as well as on the status of crops in season. *WatchITgrow* can be used to assess the stage of a crop's development and its probable harvest date, as well as the risk of losses in terms of yield or quality, by monitoring temperature and precipitation levels and assessing the general health of the crop. In addition, the tool makes it possible to identify spatial variability between and within plots and estimate yields during the growing season. With this information, potato industry players can identify situations and intervene more quickly and effectively in the event of problems on the ground. In addition, an automatic warning system ensures that an alert is given immediately if an abnormal situation arises (e.g. drought, high intra-plot variability).

The application, available via www.watchitgrow.be, represents in its current form a first step towards a more integrated system including functionalities such as technical information on plots, nitrogen and irrigation management, and, in the medium term, crop health monitoring.

WatchITGrow is the result of three years of research within the iPot project. This project, coordinated by BELGAPOM (the Belgian Federation of Potato Traders and Processors), was launched in 2014 as part of the STEREO III research programme of the Federal Science Policy Office (BELSPO funding). In addition to the CRA-W, its partners include VITO and Ulg (Arlon site).

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BIOPESTICIDES – A SOLUTION ATTRACTING INCREASING RESEARCH INTEREST

AS CIVIL SOCIETY IS CHALLENGING THE USE OF CHEMICAL (SYNTHETIC) PLANT PROTECTION PRODUCTS FOR ENVIRONMENTAL AND PUBLIC HEALTH REASONS, THE DEVELOPMENT OF ORGANIC FARMING AND THE USE OF BIOPESTICIDES (OR BIOCONTROL PRODUCTS) TO PROTECT OUR CROPS FROM PESTS, DISEASES AND WEEDS ARE BOTH INCREASING TRENDS.

These natural products are known to be less toxic and less hazardous to the environment. However, they are not entirely risk-free and need to be properly understood. For this reason, the CRA-W is being asked to analyse more and more biopesticides and to develop and validate analytical methods to determine their active ingredients, impurities or residues.

Products considered as biopesticides by European and global regulatory authorities are of varied origin. They can be classified into three main categories according to their type: microbial biopesticides (bacteria, fungi, viruses etc.), plant biopesticides (active substances produced by plants with insecticidal, aseptic, or plant and insect growth-regulating properties) and animal biopesticides (predators, parasites or molecules derived from animals such as spider venom, insect hormones or pheromones).

For example, in recent years, the CRA-W has analysed metabolites of an insecticidal biopesticide based on fungal strains (Beauveria bassiana), active substances extracted from fungi (abamectin), plant biopesticides with insecticidal or repellent properties such as pyrethrum extract as well as products based on the essential oils of clove (eugenol), geranium (geraniol), lemongrass, anise extract (trans anethol), and quassia wood infusion (quassin), as well as plant biopesticides with fungicidal properties, such as tea tree essential oil products.

In addition, the CRA-W is closely involved in the development of the FAO/WHO specifications for biocontrol products. Initial work has begun on specifications for microorganisms and will continue with specifications for plant extracts and semio-chemical compounds.

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NEW FOR MECACOST!

MECACOST IS A DECISION-MAKING TOOL THAT ALLOWS THE RUNNING COSTS OF NEARLY 390 MACHINES TO BE CALCULATED EASILY. DEVELOPED BY THE CRA-W WITH THE SUPPORT OF DGO3 AND AGRO-SERVICE, IT IS AVAILABLE FREE OF CHARGE IN FOUR DIFFERENT LANGUAGES AT MECACOST.CRA.WALLONIE.BE, AND HAS JUST RECEIVED AN IMPORTANT UPDATE TO ENABLE THE SECTOR TO CONTINUE TO BENEFIT FROM A QUALITY SERVICE.

Even when new investments are initially reasoned out on the basis of technical criteria, profitability is of course an important factor that must always be considered before a decision is made. One way of knowing *a priori* the set of costs which are inherent in the use of a piece of machinery is to calculate its estimated cost of use. Such a calculation must take into account all fixed costs – depreciation, interest, taxes and insurance – as well as variable costs such as maintenance and repairs, and fuel consumption (for motorised agricultural equipment and tractors). All this can be done using the MECACOST tool!

This easy-to-use tool first prompts the user to select the agricultural equipment to which the calculation will relate (characteristics and options). The parameters necessary for the calculation are then shown. These parameters – including the purchase price of the machinery, annual use and performance – can be changed by the user, which allows the calculation to be adapted for each individual situation. The tool takes things one step further by making it possible to calculate the costs of use for a single tractor in combination with one or two pieces of machinery, and by including the hourly cost of labour.

MECACOST helps you to choose the best equipment for your individual needs. It allows you not only to avoid unsound investments, but also to compare machinery and even activities, such as forage harvesting systems, sowing techniques with and without tillage, and so on. Knowing your machinery running costs can also be useful for fixing rates when performing work for others and, conversely, for comparison with the rates offered by third parties.

The tool's economic data have recently been updated by integrating the new prices of the various machines and the prices of the most expensive options. The values which appear by default are an average of various recent catalogue prices excluding VAT across the range of brands available on the Belgian market. In parallel with this economic update, the technical data for the machines already featured have also been revised with changes in the models, categories or options considered. In addition, a new category of machine has been added: mechanical weeding tools. Finally, a new feature now displays the change in running costs according to the amount of use a machine undergoes annually.

Come and (re)discover MECACOST at mecacost.cra.wallonie.be !

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AGENDA

22 NOVEMBER 2017

17th Pork and Poultry Products Day
New economic challenges in the sector
Moulin de Beez, Namur
Contact: communication@cra.wallonie.be

29 NOVEMBER 2017

2nd 'From Research to Action in Organic Farming' Day
Espace Senghor, Gembloux
Contact: celluleagribio@cra.wallonie.be