



## ***THE THREE-YEAR TRAINING PLAN 2018 - 2020***

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## **PREMISE**

"Education and training are the most powerful weapons you can use to change the world." Nelson Mandela - Nobel Peace Prize winner

Investment in education and training is needed to help people build knowledge and skills that enable them to position themselves not only in the labour market, but in society as a whole. For example, training in the field of economics and employment also has a significant impact on the dissemination and use of online services (e-government, online health services, home automation, e-skills, security, etc.), whose importance is likely to increase enormously in the short term.

Training is present in all the new laws and employment contracts that regulate the life of public administrations.

CREA is no less important since it has been pursuing this aim for years and already has a series of three-year training plans in place, also taking into account the various mergers and reorganisations that have given rise to CREA since the CRA.

Therefore, for the years 2018-2020, a new three-year training plan is being drawn up, based on the reorganisation of research centres. At the time of writing of this plan, the reorganisation of the research centres is at the goal, which have become 12 throughout the country, or six transversal research centres and six research centres of the supply chain. The interdisciplinary research centres have transversal competences with respect to the research centres of the agri-food and agri-industrial supply chain and represent common training needs not only for the aforementioned supply chain centres, but also for some offices of the CREA Central Administration.

For this reason, the Plan has also been drawn up on the requests of the 12 scientific committees of the centres, which have been formally asked to express their opinion on training needs, and is the natural continuation of the past three-year plans.

Obviously, the plan will be based on the strategies and institutional mandate of CREA, which carries out research and develops solutions capable of increasing the profitability and competitiveness of agricultural, agri-food and forestry activities in a context of sustainable and healthy production, guaranteeing the protection and conservation of natural resources and the biodiversity of agricultural, forestry and fisheries ecosystems, on the basis of the objectives and guidelines defined by the Ministry of Agricultural, Food and Forestry Policies.

From this derive the priority areas of intervention:

*Strengthening research*

*Improvement of management processes*

*Enhancement of human capital*

*Promotion of anti-corruption, transparency and integrity measures*

It is from these arguments that the ministerial indications for CREA are expressed in six areas of the strategic plan:

1. Sustainable increase in productivity, profitability and resource efficiency in agro-ecosystems

2. Climate change, biodiversity, soil functionalities and other ecological and social services
3. Coordination and integration of supply chain processes and strengthening of the role of agriculture
4. Quality, typicality and safety of food and healthy lifestyles
5. Sustainable use of biological resources for energy and industrial purposes
6. Development and reorganisation of the knowledge system

The training plan is based on the lines mentioned above and therefore, on the part of the research structures, the training topics are highlighted.

The Plan includes the relevant regulations, the recipients of the training, the methodology used to identify training needs, the type of training measures planned over the three-year period and the financial resources allocated to staff training.

In particular, the plan takes into account the CREA Action Plan in relation to the Charter for Researchers:

1. ensure that all researchers are supervised for at least four years from the start of their careers, regardless of the type of contract;
2. clarify the role of a CREA supervisor for PhD students in addition to the supervisor appointed by the University that provides the courses and issues the diplomas;
3. provide specific training for senior researchers in order to improve their skills as supervisors, mentors, trainers of researchers at an early stage of their careers.

## **OBJECTIVES**

Previous Plans have identified the main objectives of training in CREA. Some of these objectives in progress are also the basis of the Plan for 2018 - 2020, both because they are still relevant for training, as they are closely linked to the strategic objectives of the institution, and because they are still partially achieved to date.

The experience gained in recent years has made it possible to make use of the valuable wealth of knowledge and guidance, which have been refined over time with a view to continuous improvement. The training needs are not always evident and immediately obtainable, so it is necessary to detect them through forms of direct investigation (for example through preliminary research). It is also possible to point them out through a documentary analysis of reports or research surveys relating to the economic and business area of reference, as well as the needs of the institution, even the unexpressed ones. The organisation has extended the survey on training needs, from research centres to the administrative headquarters, for a period of 3 months.

The training requirement, as highlighted above, concerns the need for an organisational structure to respond to a lack of competence.

The training path must respond to this lack, both in terms of strengthening / development and in terms of knowledge and skills from scratch.

Within CREA, as mentioned above, the structure and consequently the working methods have changed.

In fact, the roles of the top management (managers and directors of the research centres) have changed, so much so that the directors of the centres have taken on much more decision-making, administrative and management capacity, while for the managers there is thought of a centralisation of functions: this entails an obligatory course on the new roles and working methods that these figures have to fulfil. Within CREA, administrative training should also be provided both at headquarters and in research centres where employees with an administrative profile are present.

It is important, along the training path, not only to be a "passive" subject (auditor), but to face problems and conflicts with colleagues with real and stressful problems that can occur in everyday life.

It is also important to have in mind the goals to be achieved, the ability to interact with others (for example in conflict management) and the ability to change their beliefs and their way of working by accepting an innovative "practice".

This way of proceeding, outside of their own work context but operating on practices that are the same as those that are carried out in the Office, (but free of civil, criminal and corruption consequences), would give the learners the opportunity to work more calmly with the same attention and commitment as if the practice were really carried out. It is also worthwhile to involve working groups of two or three people.

## **DESIGN OF THE PLAN**

The involvement of all employees will be mandatory on matters such as:

Transparency and anti-corruption, safety in the workplace, privacy, data security and negotiation in its broadest sense, information technology.

This is because the topics mentioned are interlinked and must be considered fundamental for the preparation and administrative culture of employees, including top management, i.e. managers and directors. Following these indications, the course and the teacher chosen with the indications given will be evaluated. The training courses are intended for all the staff working for the institution for an indefinite and fixed term, belonging to the different profiles and levels.

## **THE 2015- 2017 TRAINING PLAN: AN INITIAL ASSESSMENT**

The training carried out in the three-year period 2015-2017 involved the participation, in total, for the administrative subjects of 936 participants, while for the technical-scientific area 1287.

<b>Three-year period 2015/16/17</b>	<b>Learners</b>
Administrative area	936
Technical/scientific area	1287
<b>TOTAL</b>	<b>2223</b>

## **THE USEFULNESS OF THE TRAINING ACTIVITIES**

Why and who attends the training courses? To have a more consistent cultural background, to hope for a progression. This would be a critical issue to study since the courses are identified for the growth of research and in particular the research of Crea in core subjects. So an overall growth and not a single one, as it was once used. For this reason we believe in training in the field, with working groups that can exchange and document together, simulating daily processes without the stress of competitiveness and failure.

## **THE TRAINING PLAN FOR 2018 - 2020**

### **THE RECOGNITION OF TRAINING NEEDS**

As already mentioned, the Training Office has conducted an official survey, both at the research centres, involving the Scientific Committees, and at the headquarters, involving the Managers of the various offices. The picture that came out has been carefully studied, detecting many similarities in training, both in one field and in the other and some interweaving between scientific and administrative training; this has led to an evaluation of the topics and a selection of similar needs.

Therefore, a framework has been created for each subject plus the compulsory training.

### **TECHNICAL AND SCIENTIFIC TRAINING NEEDS**

The training needs of the structures highlighted a series of research topics that reflect their activities and above all their ongoing projects, as well as their relevance to the CREA three-year research plan and their compliance with the provisions of the European Researcher's Charter.

### **THE TRAINING NEEDS OF ADMINISTRATIVE STAFF**

The needs of the administrative offices, as mentioned, cross with some needs of the research centres. In any case, the need for training focuses mainly on the two main topics that are the negotiation (in the light of the new rules on procurement and also included in the anti-corruption plan) and the budget.

### **THE RESOURCES AVAILABLE FOR CARRYING OUT THE ACTIONS REQUIRED**

For the 2018 training year, a total of €158,500 will also be reserved to finance staff training.

This figure will be used both to finance spot training (specialist training for researchers and administrators) and to finance training initiatives aimed at strengthening transversal and compulsory skills, as well as to strengthen the scientific skills included in the plan.

Before illustrating the planning of the interventions as identified, the commitment of the Training Office to involve in the delivery of the skills and professionalism present in the Body, both exclusively and supported by external experiences, considering this a priority mode to enhance the human resources of CREA both in the role of CREA teacher, but also to contextualise the intervention and strengthen collaboration between colleagues, networking experiences and good practices of the Scientific Network with courses also "on the ground". The Training Office will shortly be reshaping the list of internal teachers in order to contain training costs.

**Staff in service as at 31.12.2017**

<b>Profile</b>	<b>Open-ended period of time</b>	<b>Determined times</b>	<b>Total</b>
Executive/General Manager	17		17
Dir. Structures	12		12
Researchers and Technologists	601	196	797
Administrative officials	40		40
Technical assistant	280	167	447
Administrative Collaborator	182	50	232
Technical operator	319	16	335
Administrative operator	149	2	151
<b>Total</b>	1600	431	
<b>Grand total</b>			2031

However, with a view to relaunching the activities of the institution, it is more than ever felt the need to enhance human capital through the acquisition of the necessary knowledge and professional skills.

In this sense, the training of personnel is a key element to support the process of reorganisation and change that is affecting the institution and an essential lever for the enhancement and strengthening of skills, updating and professional growth of staff in service and the inclusion of newly hired staff in the organisational processes of the institution.

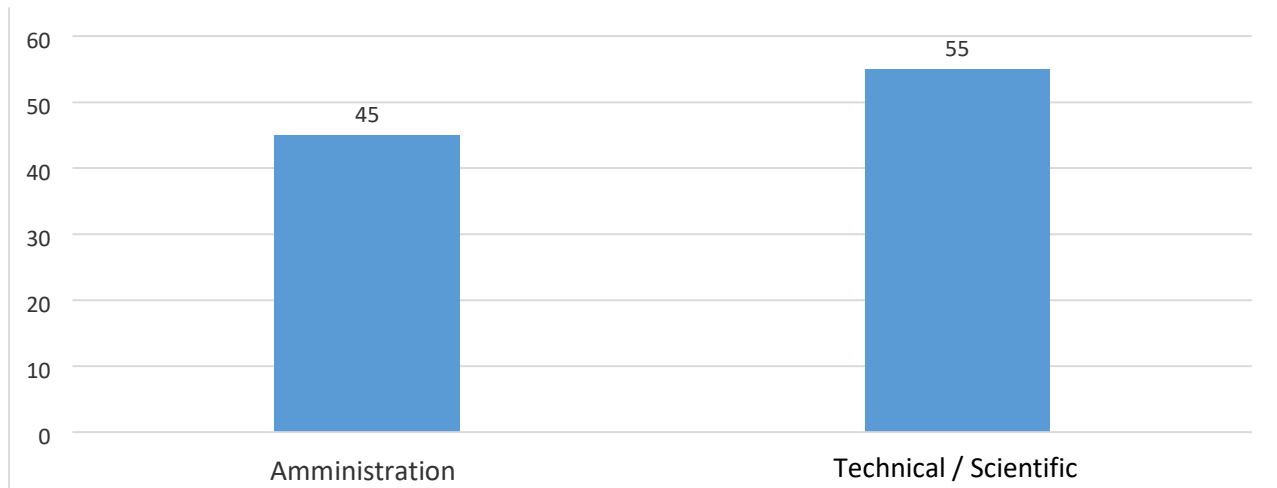
The planning of training activities for the period 2018-2020 reflects "the guidelines and general planning of training activities, retraining and refresher courses for staff" contained in the agreement with the OO.SS signed on 29 April 2008 and was previously shared with the same trade unions and contained in the draft trade union agreement "Universities, Schools, Research Institutions" of January 2018.



## **THE CONTENTS OF THE TRAINING NEEDS**

The analysis of the needs expressed for the different common macro areas provides information on the contents of the training needs.

### **Required courses**



## **TRAINING FOR THE THREE-YEAR PERIOD**

During the three-year programming period under examination, training interventions will be carried out. These interventions take into account the priorities identified with the report of the training needs already described and the strategic objectives of the Body. The composition of the personnel indicated in the previous paragraphs suggests to include the training interventions in two macro-categories: transversal interventions and specialised technical interventions. The transversal interventions include the subjects for which training is required by law (e.g. anti-corruption, transparency and legality, health and safety in the workplace, etc.), as well as subjects aimed at improving the management of the Entity (information technology, foreign languages, statistics, procedures in use within the Entity, communication, relational behaviour, etc.). For technical-specialist issues, considering the wide range of competences of the Entity, the planning of training interventions will be strictly in line with the training needs identified, with the primary objective of supporting the professional growth of all staff, from their recruitment and throughout the working life cycle. In addition to the scheduled training courses, during the year spot courses may be held for individual staff units, deriving from specific and motivated needs for technical and/or regulatory updating. In the realization of the courses will be privileged the use of internal staff in possession of adequate skills, which is enrolled in the Register of internal teachers. This will make it possible to enhance the value of the staff and to obtain an archive of teaching material available exclusively to the staff of the institution. The documentation left at the disposal of the staff is, in fact, a useful complement to the course/seminar carried out by the teacher. Alternatively, the courses can be carried out by entrusting them to external subjects selected in accordance with the law, who will be asked to articulate the courses according to precise indications and taking into account the needs

of the institution. Finally, some staff units, on the basis of specific and motivated needs for technical and/or regulatory updating, may participate directly in courses organised by external subjects.

As already pointed out by the Training Office, given the needs that emerged with the new survey of training needs, which primarily reflect the expansion of skills of the Body which has intervened in recent years, will reopen the possibility of submitting new applications for internal teaching posts. From a methodological point of view, particular attention will be paid to the monitoring and evaluation of training in its various meanings. The evaluation of the learners will be a strong point, as in the previous programming, to assess both the level of learning of the learners and the communication skills of the teachers at the end of each course. The evaluation of learning, based on a final evaluation test of the learners, will be aimed at verifying the achievement of the objectives of understanding in terms of consolidation of knowledge and skills. The passing of the final evaluation will be mentioned in the certificate of participation in the course, which will continue to be issued on the occasion of each training intervention. The evaluation forms, filled in by the participants at the end of each course, constitute an essential phase of information collection, necessary to support future decisions about the optimal use of resources available for training and to ensure the necessary consistency with the objectives of the Administration. In addition to the traditional classroom or videoconference courses, it is planned to introduce FAD (Distance Learning) courses in e-learning mode, with which it will be possible to train a greater number of people by limiting travel. In order to realise effective formative actions, we took into account the analysis of training needs conducted, the type of courses identified and the courses already carried out in previous years. Here is the following list of training activities to be carried out in the three-year period under review, with an indication of the areas of staff potentially affected.

### **COURSE SUMMARY TABLE**

#### **Mandatory courses**

<b>Transparency and anti-corruption</b>
<b>Security in the workplace</b>
<b>Privacy</b>

#### **Transversal skills**

<b>Basic statistics – delivered in e-learning mode via the MOODLE Platform</b>
<b>Advanced statistics- regressive models – advanced multivariate analysis – discriminatory analysis – canonical analysis</b>
<b>Parametric and non-parametric methods</b>
<b>Uni and multivariate variance ANOVA/MANOVA analysis</b>
<b>Neural networks</b>
<b>R based language</b>
<b>R advanced language</b>
<b>Office 356</b>

### Specialist training - Climate and environmental and production protection

<b>Study and implementation of estimation techniques, comparison and validation of biometeorological data obtained from satellite measurements, meteorological radars and in situ</b>
<b>Experimental design: experimental plans, data collection and applied statistics for data analysis and validation</b>
<b>Proximal and remote sensors for crop monitoring: technologies and methodologies for plant phenotyping and agronomic applications</b>
<b>Geographic information system - GIS - delivered in e-learning mode</b>
<b>Sampling and experimental drawings - delivered in e-learning mode through MOODLE Platform</b>

### Specialist training - Digital growth

<b>Basic course in electronics and applied microelectronics</b>
<b>Aircraft and remote system piloting (Drones)</b>
<b>Open source cartographic processing</b>
<b>Bioinformatics</b>
<b>GIS: definition and management of homogeneous areas in precision agriculture</b>

### Specialist training - Plant, animal and microbial genetic resources in the agro-food sector

<b>Molecular biology</b>
<b>Advanced breeding</b>
<b>Innovative methods of taxonomy, barcoding, phylogenesis</b>
<b>Management and processing of data from sequencing by transcription and metagenomics</b>
<b>New technologies of genetic improvement</b>
<b>Innovative techniques for virus recovery</b>
<b>Morphological characterization of viticultural and fruit biodiversity</b>
<b>Innovative technologies for the conservation and management of plant biodiversity</b>

### Specialist training - quality of agri-food production

<b>Gas chromatography for gas, solid and liquid analysis</b>
<b>NIR spectroscopy applied to the agri-food sector</b>

### Specialist training for internationalisation

<b>Eurodesign</b>
<b>Management of working groups</b>
<b>Protection and enhancement of intellectual property</b>
<b>Document management from computer protocol to document archive</b>
<b>Policies, national and European funds and programmes for research and innovation</b>
<b>European innovation partnerships and operational groups</b>
<b>International cooperation programmes</b>
<b>Scientific English - basic course</b>
<b>Scientific English - advanced course</b>

### **Advanced specialist training (Administrative area)**

<b>Economic and financial accounting</b>
<b>VAT management</b>
<b>Preparation of pay slips and F24</b>
<b>Public contracts</b>
<b>Electronic market</b>
<b>Administrative management of Community projects</b>
<b>Civic access to administrative documents</b>
<b>Management of the assets of a public body</b>
<b>Management of public movable property</b>

### **CONCLUSIONS**

The list of subjects is not exhaustive and can be supplemented by the Training Office on the basis of emerging training needs.

Applicants may specify, within their chosen subject area or subject, the subject(s)/address(s) for which they are most specialised.