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TAKING THE PULSE
OF OUR PLANET FROM SPACE



Harvest forecasting for early warning on production shocks: the MED-Amin crop monitoring 2022

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Harvest forecasting for early warning on production shocks

the MED-Amin crop monitoring 2022

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Contents

- The **MED-Amin** project
- **Objective** of the monitoring exercise
- **Methodology** and seasonal **workflow**
- 2021-2022 monitoring **results**



Introduction – the Mediterranean region

- **Mediterranean region** and **climate change**
- Climate change **impacts** are bringing challenges in terms of **agriculture sustainability** and **food security**
- **Extreme** agro-meteorological **events** are expected to occur with higher frequency

Food insecurity, social instabilities, market distortions

Introduction – the MED-Amin project

- **CIHEAM** is an intergovernmental **organization** composed of **13 member states** with focus on the **Mediterranean Basin**
- Sept. 2012, mandate for “the development of an information system on Mediterranean markets to share information and fight prices volatility”
- Feb. 2014, MED-Amin: MEDiterranean Agricultural Market Information Network
- Since 2017, **European Commission Joint Research Centre**



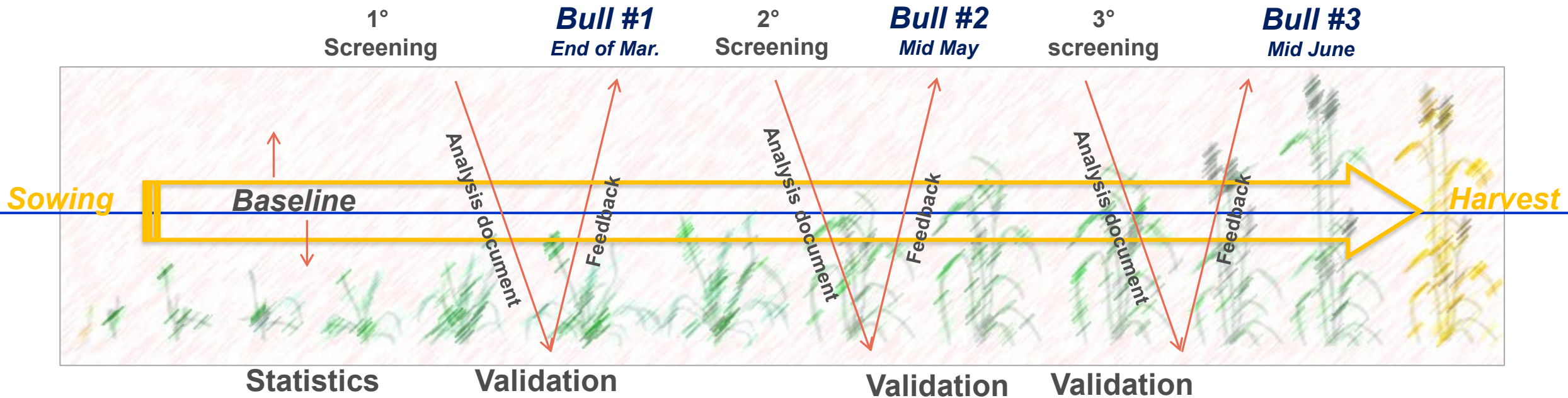
Aim

Introduce the qualitative crop forecasting activities carried out in the frame of MED-Amin across the ongoing winter crop campaign

- Run a crop monitoring for wheat and barley for the MED-Amin area during the 2020-2021 cereal campaign
- Identify and disseminate early warnings on crop productivity expectations



Principles & workflow



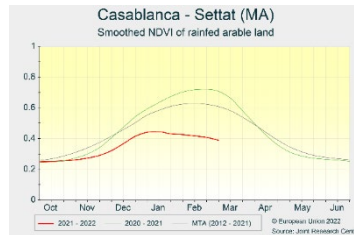
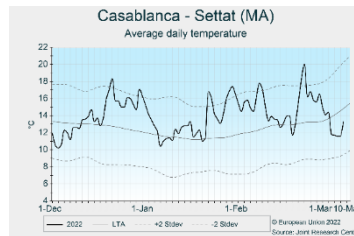
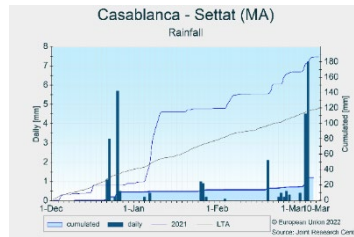
Focal points (FPs) – national experts

Participative | Multisource | Pivot | Leverage

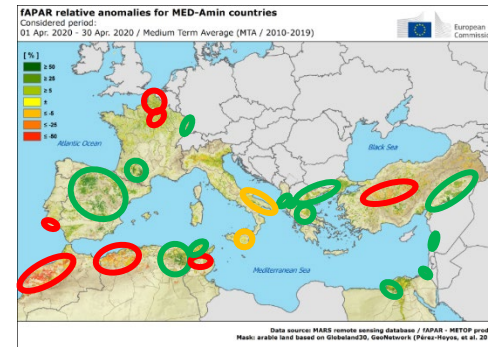


Methods

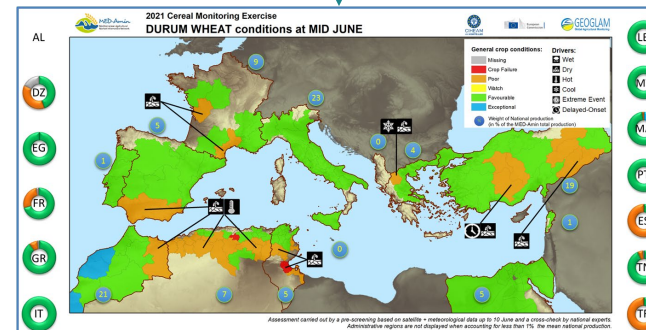
(1) Hot spot identification



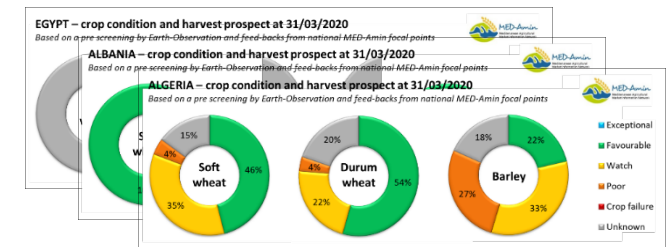
(2) Information discretization



Wet
↓
Dry

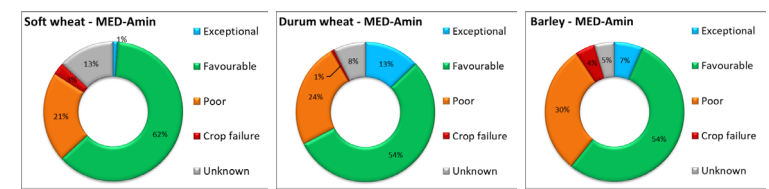


(3) Information aggregation



From country level...

...To Mediterranean basin level



Results: baseline data collection

- Winter wheat, soft wheat and barley
- From 2015 (before) to 2021
- Almost 200 regions from 13 mediterranean countries
- Area, Yield, Production

Great importance for:

Aggregate crop conditions judgments from regional to national scale, by means of (productions) weighted averages

Identify the regions in charge of at least 90% the national crop production

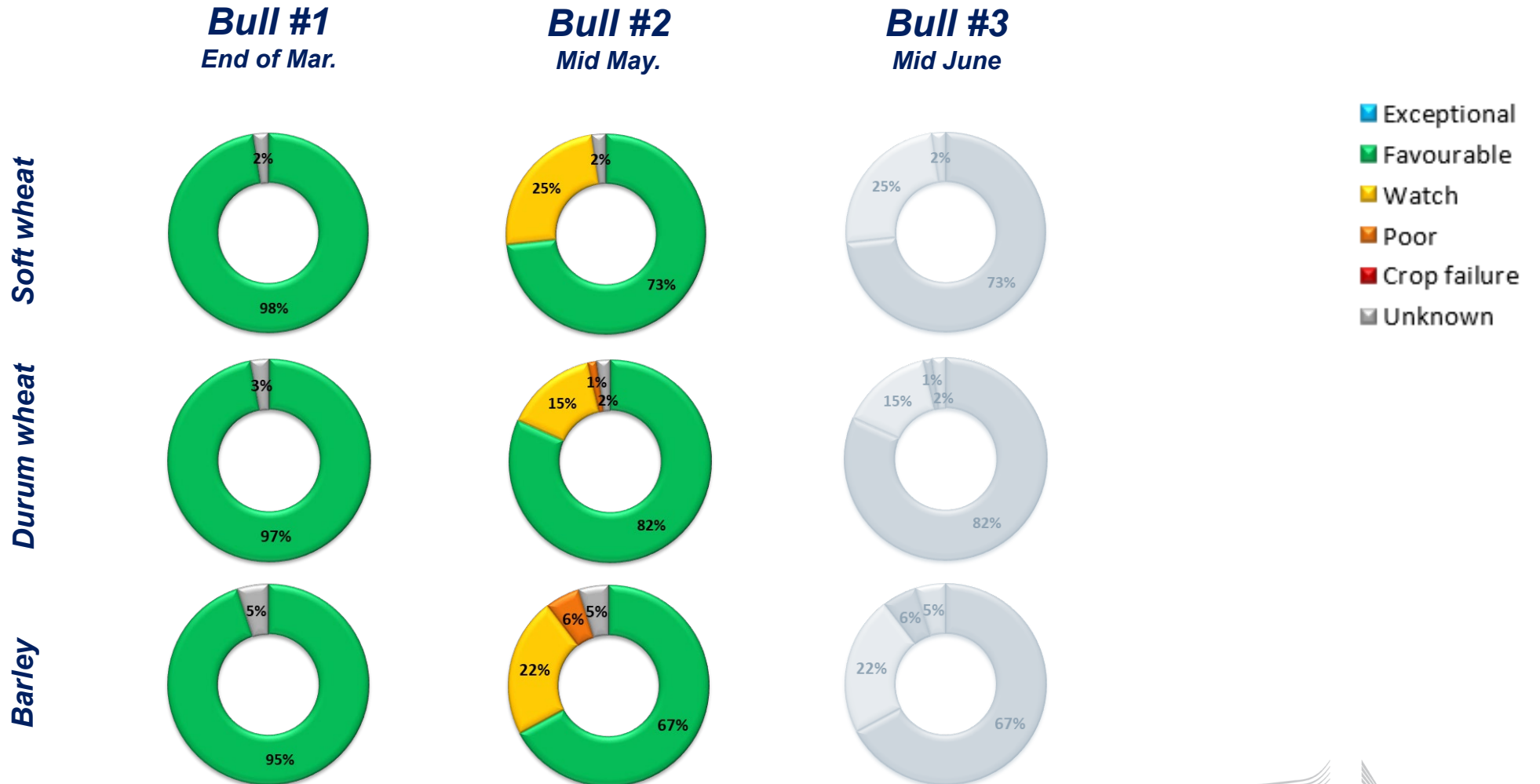
MED-Amin Middle Term Review (MTR) - 2020 MED-Amin baseline (productions) data elaboration

Notes on the accounted statistical records
Notes
Average values based on the 2015-2019 period

COUNTRY	REGION	Share of the national production for 3 crops:		
		SOFT WHEAT	DURUM WHEAT	BARLEY
Morocco	Grand Casablanca-Settat	21.6%	26.8%	18.6%
Morocco	Fès-Meknès	21.4%	23.9%	8.0%
Morocco	Rabat-Salé-Kénitra	22.9%	6.1%	19.9%
Morocco	Marrakech-Safi	9.5%	14.5%	12.9%
Morocco	Béni Mellal-Khénifra	11.0%	12.7%	8.6%
Morocco	Tanger-Tétouan-Al Hoceïma	6.2%	2.0%	5.9%
Morocco	Tanger-Tétouan-Al Hoceïma	2.1%	2.9%	1.6%
Morocco	Oriental	2.9%	0.6%	4.0%
Morocco	Oriental	1.9%	0.2%	0.4%
Morocco	Souss-Massa	0.4%	25.2%	4.7%
Morocco	Guelmim-Oued Noun	24.9%	20.2%	2.5%
Tunisia	Beja	15.9%	16.7%	4.1%
Tunisia	Bizerte	5.0%	5.9%	23.7%
Tunisia	Jandouba	10.3%	8.9%	11.3%
Tunisia	Kef	13.0%	2.8%	11.3%
Tunisia	Siliana	13.7%	4.8%	9.3%
Tunisia	Zaghouan	0.8%	4.7%	5.8%
Tunisia	Kairouan	2.1%	1.8%	11.9%
Tunisia	Nabeul	0.0%	3.4%	2.7%
Tunisia	Kasserine	10.0%	1.0%	2.9%
Tunisia	Manouba	0.1%	1.6%	1.1%
Tunisia	Sousse	0.0%	1.1%	0.6%
Tunisia	Sousse	0.0%	1.1%	2.5%
Tunisia	Al Mahdia	1.9%	0.0%	0.0%
Tunisia	Al Mahdia	0.0%	0.6%	0.6%
Tunisia	Mahdia	1.3%	0.6%	0.6%
Tunisia	Medenine			
Tunisia	Ben arous			

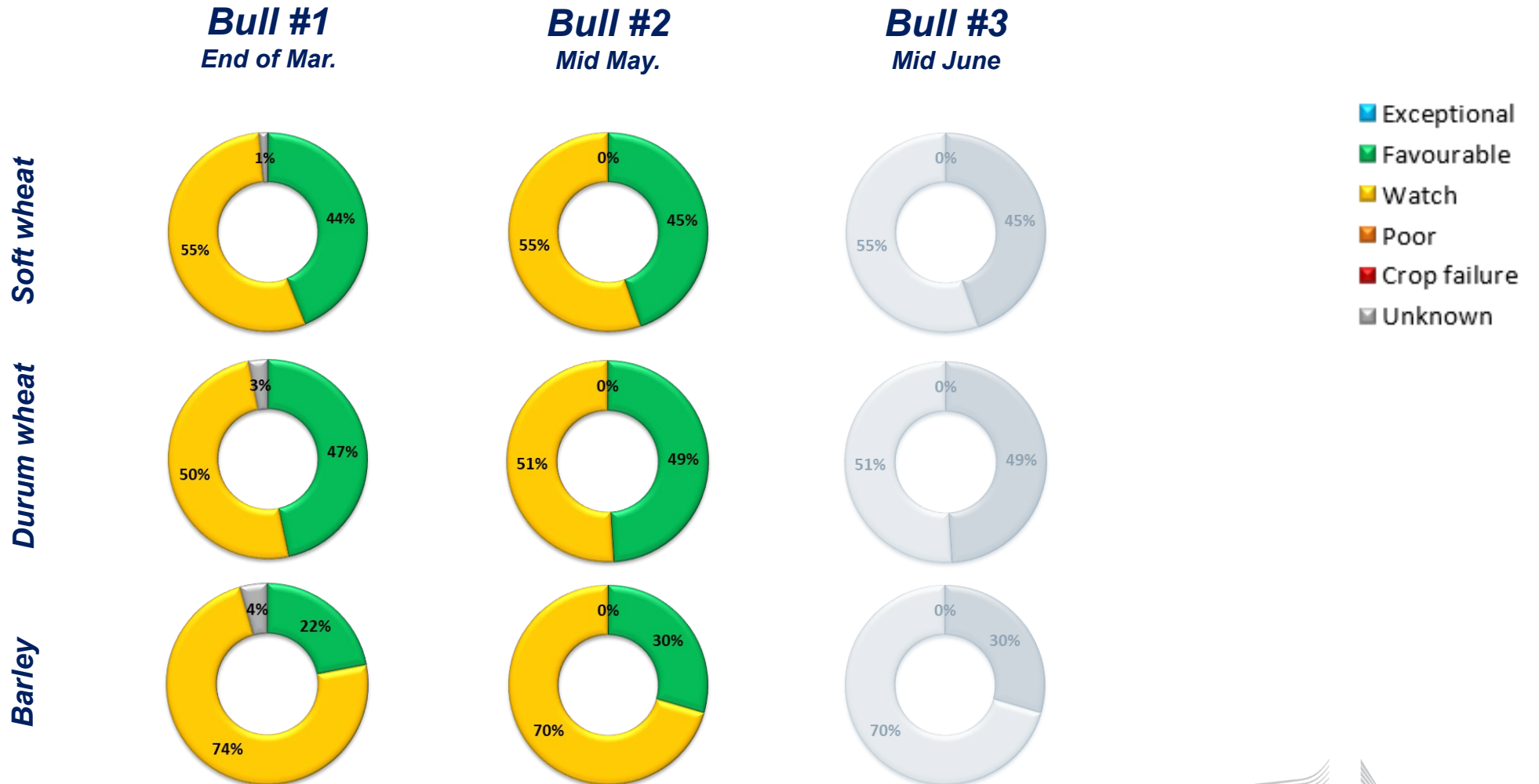


Results: national productivity expectations (1/3)



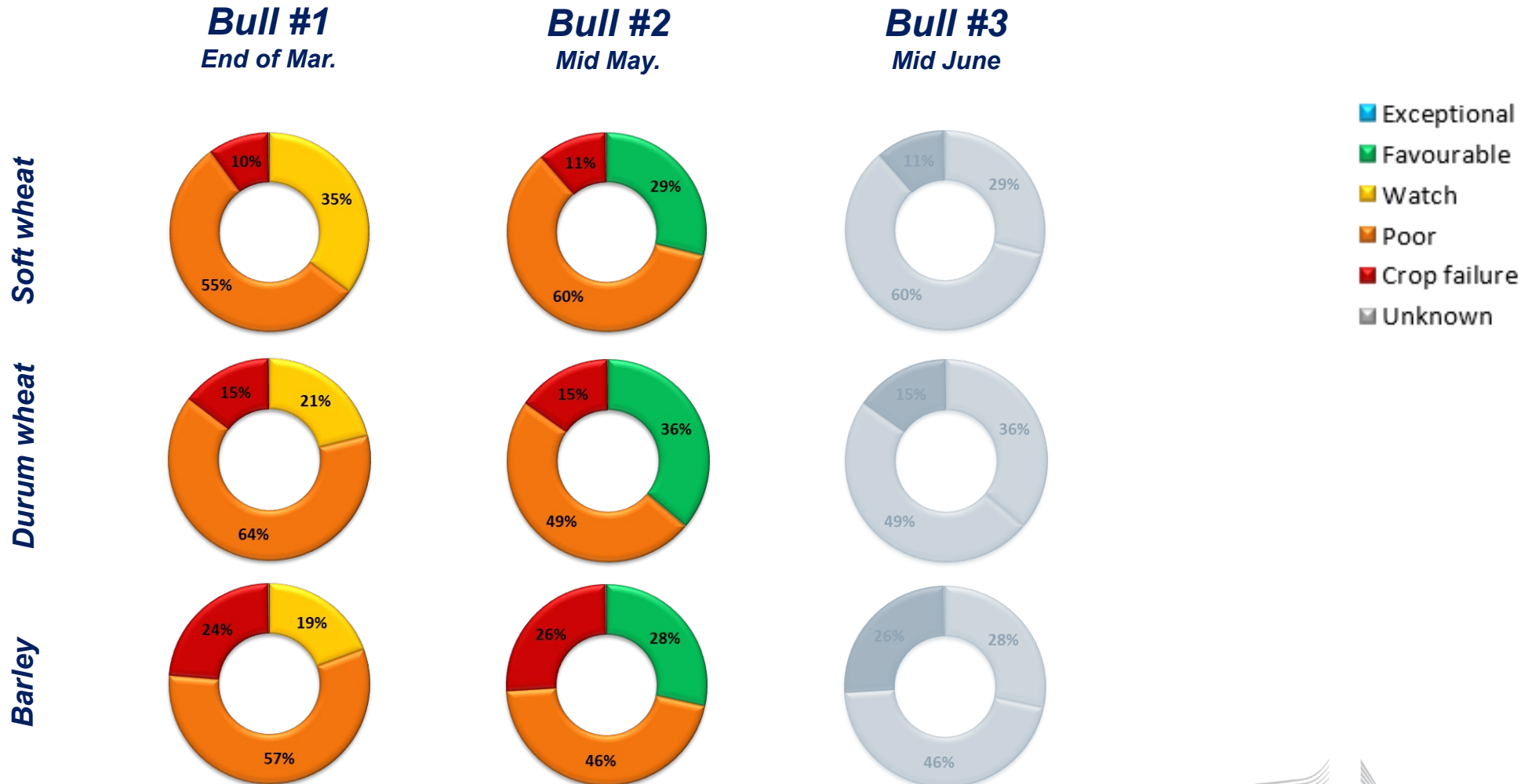
- Exceptional
- Favourable
- Watch
- Poor
- Crop failure
- Unknown

Results: national productivity expectations (2/3)

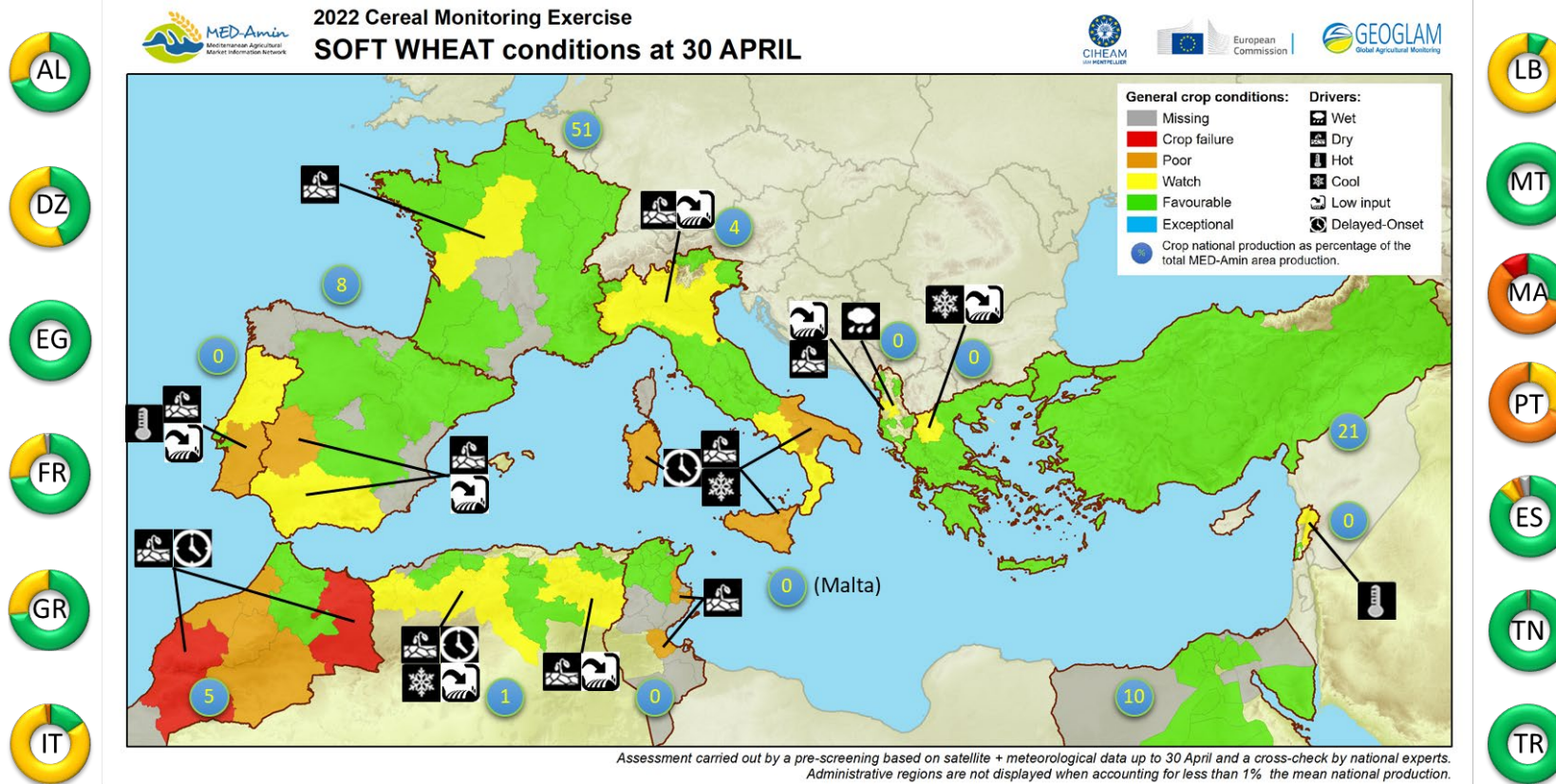


- Exceptional
- Favourable
- Watch
- Poor
- Crop failure
- Unknown

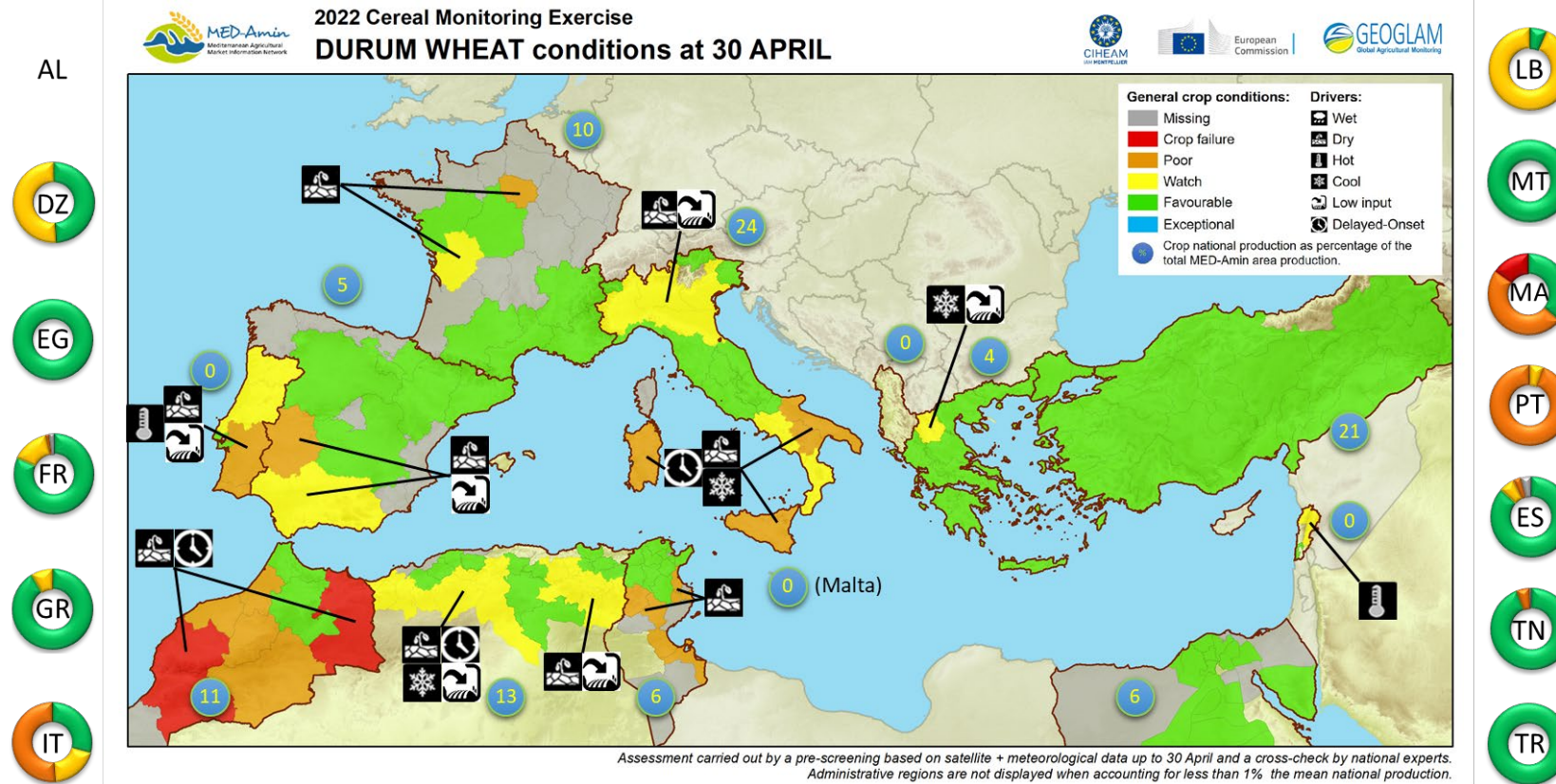
Results: national productivity expectations (3/3)



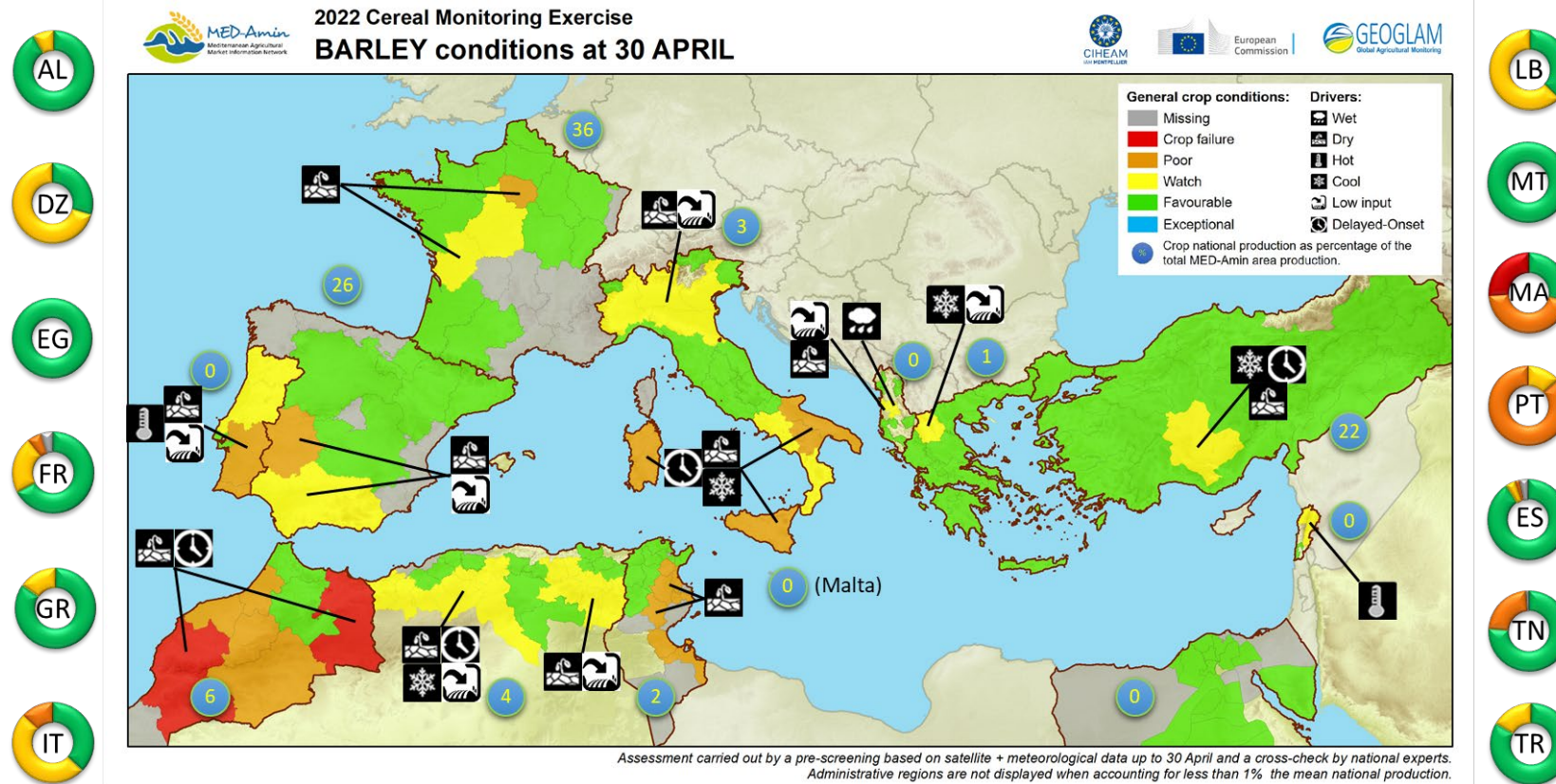
Results: MED-Amin area expected production



Results: MED-Amin area expected production



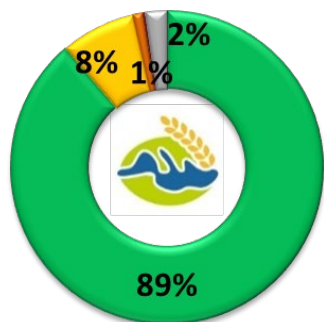
Results: MED-Amin area expected production



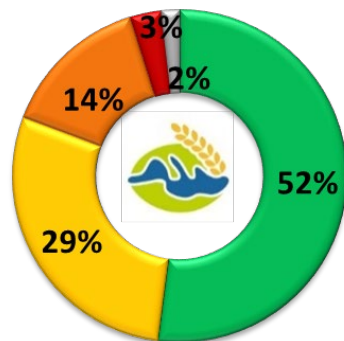
Results: MED-Amin area expected production

Bull #1
End of March

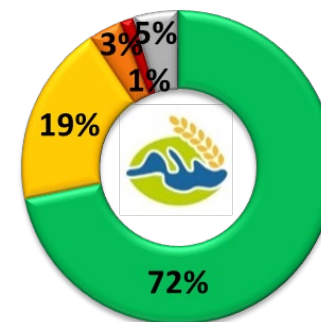
Soft wheat MED-Amin



Durum wheat MED-Amin

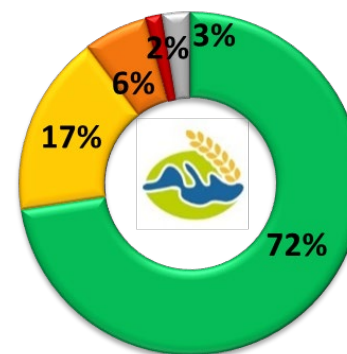
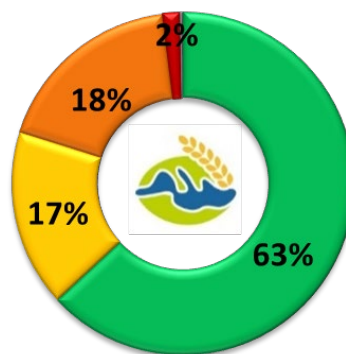
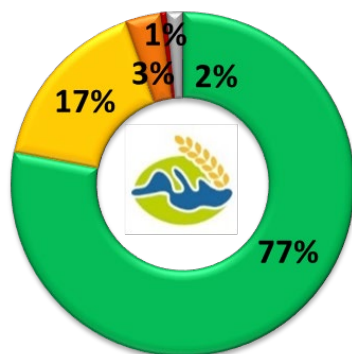


Barley wheat MED-Amin



- Exceptional
- Favourable
- Watch
- Poor
- Crop failure
- Unknown

Bull #2
Mid May.



- Exceptional
- Favourable
- Watch
- Poor
- Crop failure
- Unknown

Dissemination of the results

- Three seasonal **outlooks**
- MED-Amin **mailing list**
- **Social media**
- MED-Amin **newsfeed**



<https://www.med-amin.org/en/>



<https://www.med-amin.org/en/ressources-2/files/docs-communication/reports-rapport>

More than
3800 downloads in 2021
nearly 600 in 2022!



Conclusion

- All the monitoring **deliverables were met**
- **Crop productivity hot spot identified and shared as early warnings** within partners and publicly
- Increased **partner engagement**:
 - > quality feedbacks (complete answers: comprehensive, on-time, detailed)
 - Improved flux of shared info



Thank you

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<https://www.med-amin.org/en/>

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