

CH₄rLiE

Analysis of the Measurements

Riccardo Verna

Meeting 12/06/2025

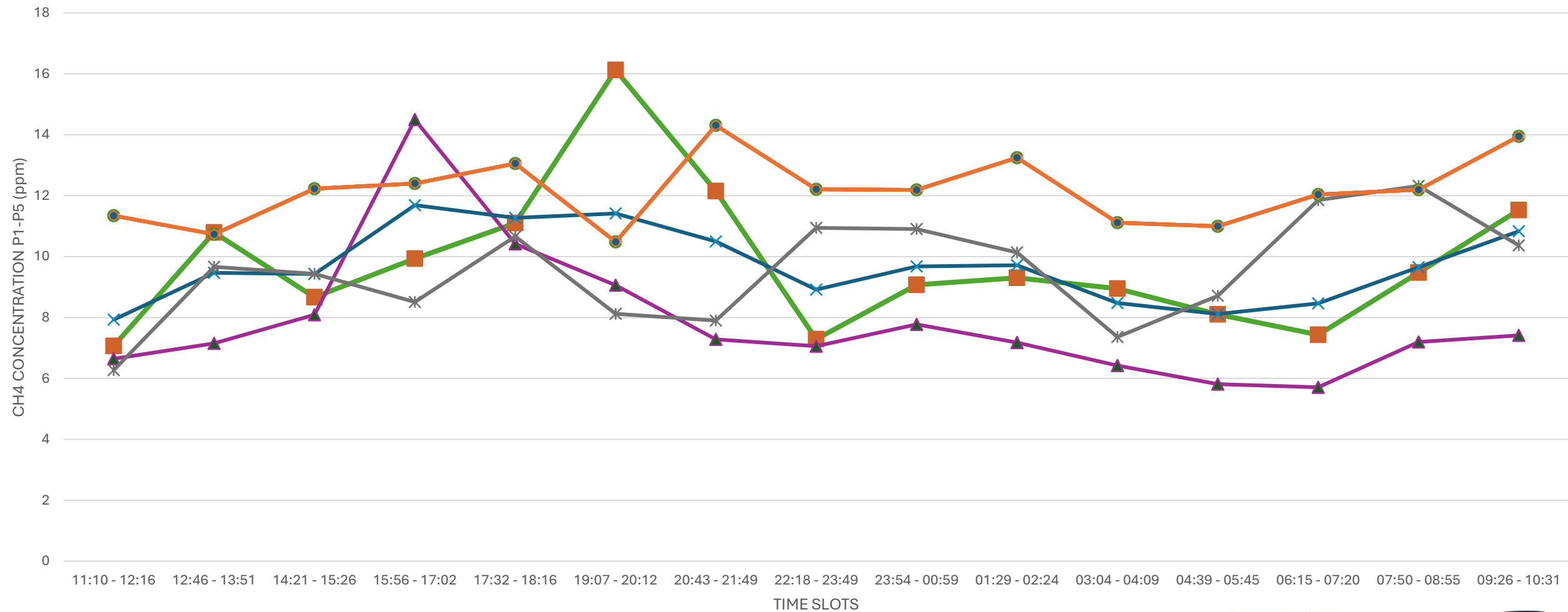


**Funded by the
European Union**

NextGenerationEU

METHANE CONCENTRATION INSIDE THE BARN

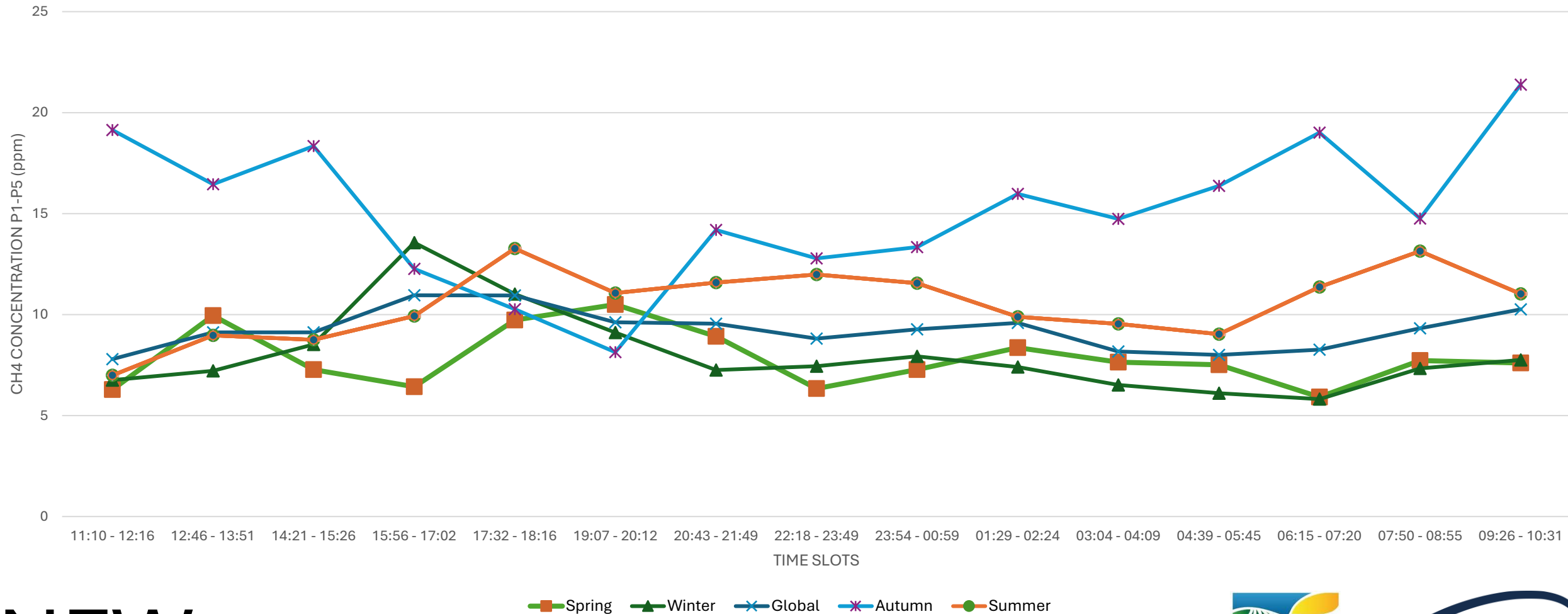
SEASONAL AVERAGE TREND OF METHANE CONCENTRATION INSIDE THE BARN



OLD

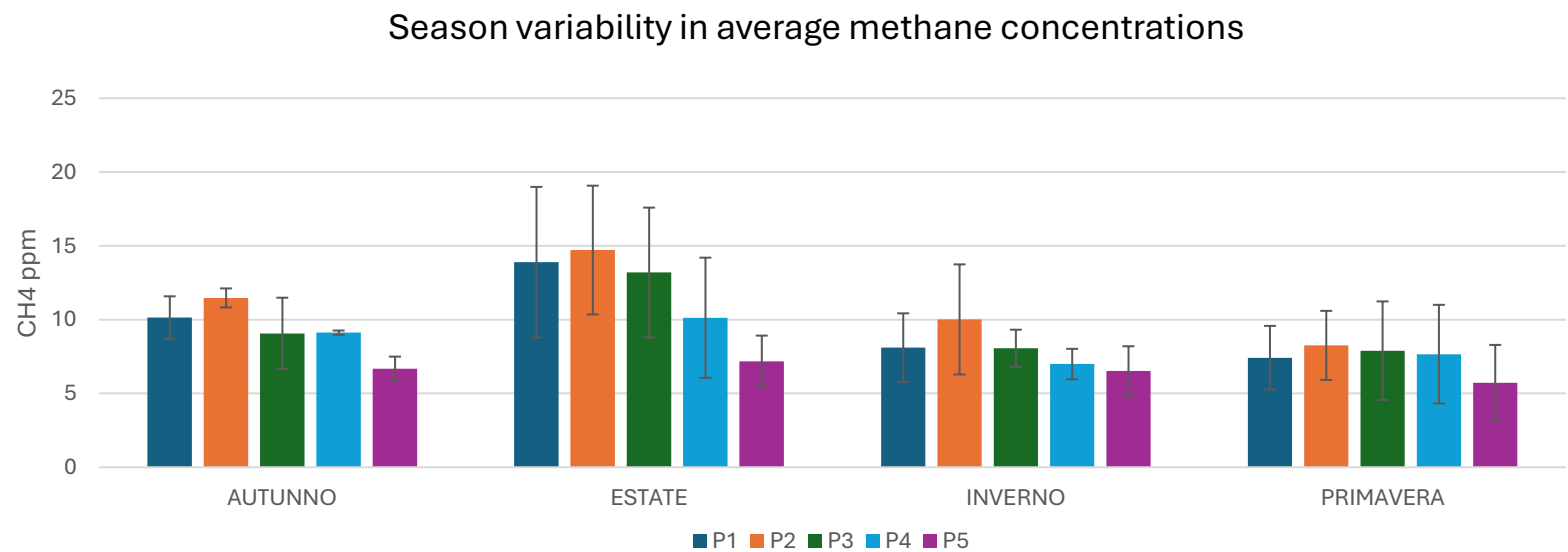
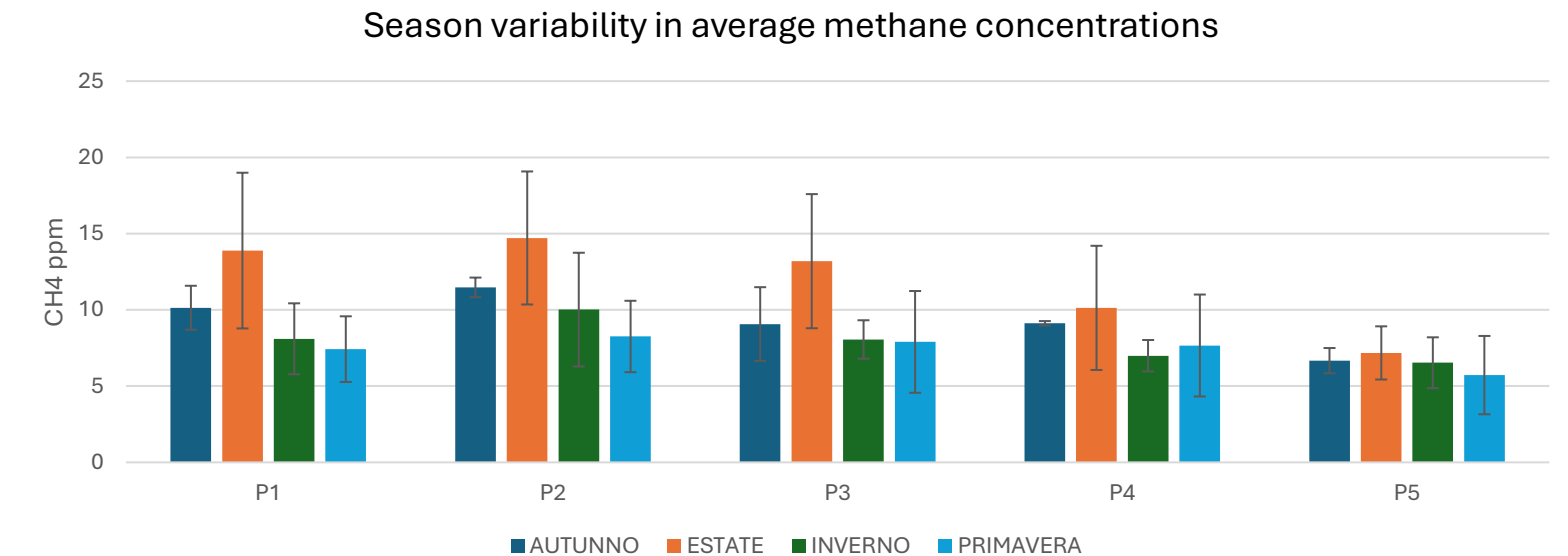
METHANE CONCENTRATION INSIDE THE BARN

SEASONAL AVERAGE TREND OF METHANE CONCENTRATION INSIDE THE BARN



NEW

SEASONAL VARIATION OF METHANE CONCENTRATION:



OLD

SEASONAL VARIATION OF METHANE CONCENTRATION:

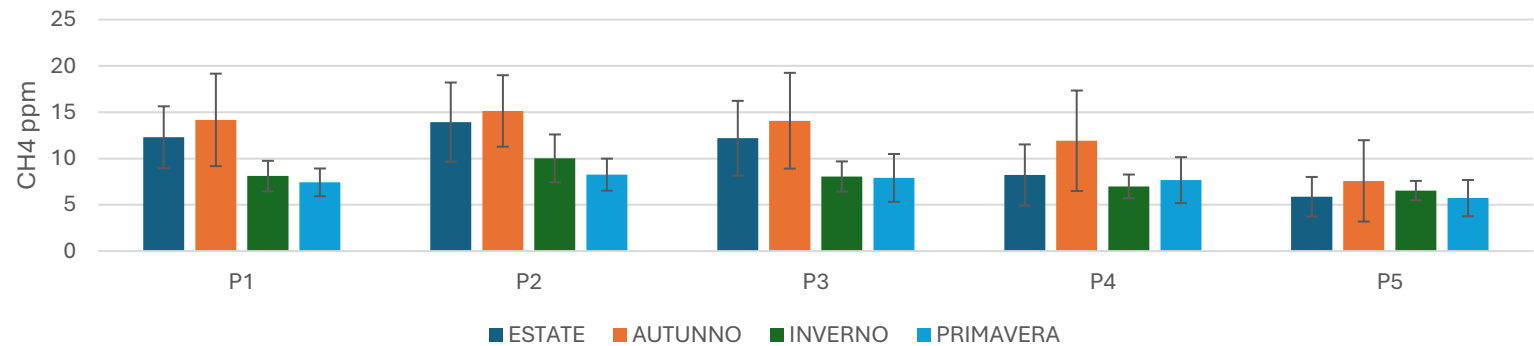
	AUTUNNO		ESTATE		INVERNO					PRIMAVERA			GALE
P1	3,525407266	9,340345292	3,65479842	5,603081452	3,194227452	1,233882	3,263317209	5,807798	3,377735	2,980816	2,813296	1,844405	3,886592
P2	5,210307658	5,696524972	4,617525173	7,186601067	4,243228494	2,993684	3,141669215	10,98596	3,00228	3,27179	3,678797	1,642619	4,639249
P3	2,924178647	9,918632201	4,886247824	6,419489649	2,846209442	2,099007	4,181549159	4,376482	4,119457	4,843828	5,90754	1,283026	4,483804
P4	4,002025586	10,08299289	5,638583443	3,448101687	3,513102392	2,994745	2,750539046	2,220507	2,60903	3,156955	6,465445	1,895516	4,064795
P5	4,387013428	7,616138763	3,568279895	2,370152417	2,691758479	1,743974	1,687992433	2,684057	2,658973	3,600703	4,388145	1,492816	3,240834

$$s = \sqrt{\frac{1}{n-1} \sum_{i=1}^n (x_i - \bar{x})^2}$$

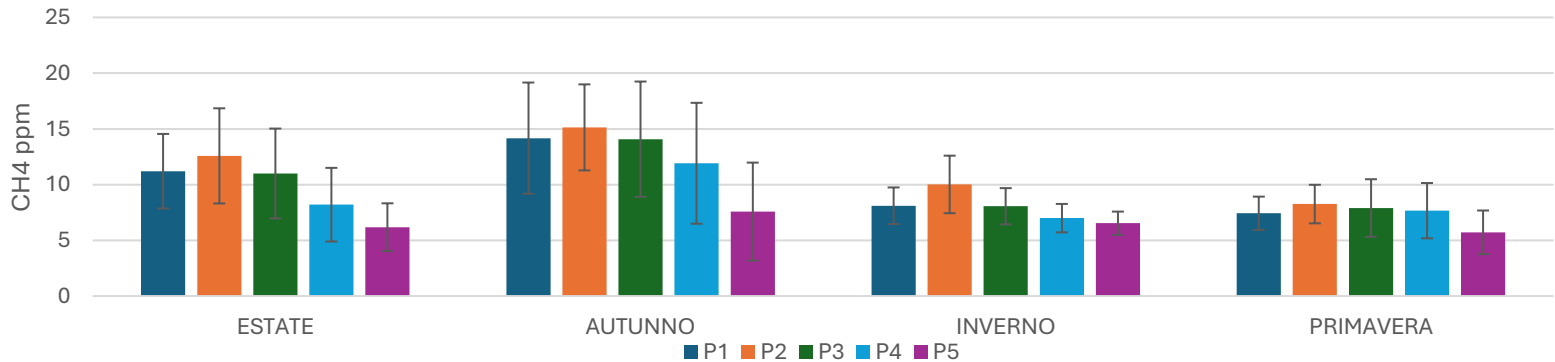
Season variability in average methane concentrations

Uncertainty on the average

$$= \sqrt{\frac{\sum(\sigma_i^2)}{n}}$$



Season variability in average methane concentrations

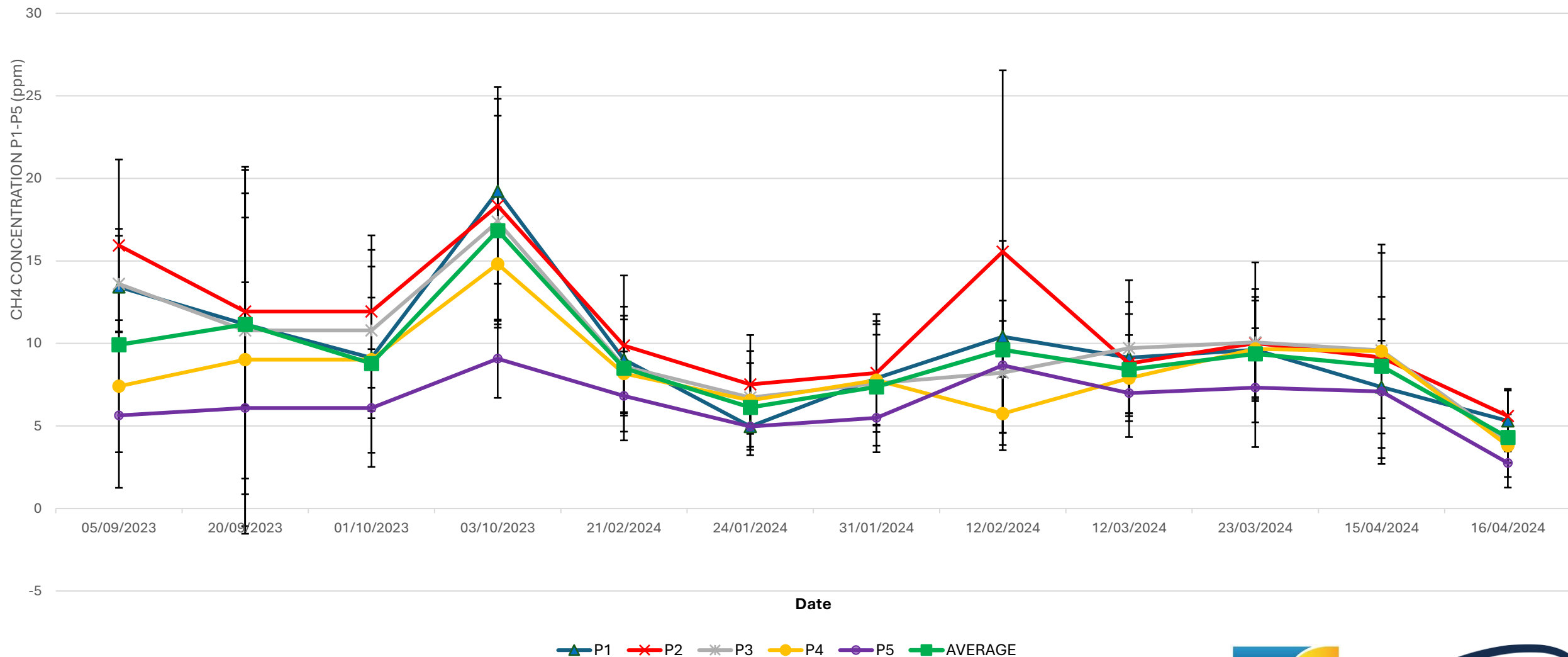


NEW



METHANE CONCENTRATION INSIDE THE BARN

SEASONAL AVERAGE TREND OF METHANE CONCENTRATION BY INTERNAL POINTS



NEXT STEPS:

- 1) Add the error bars to the plot as a function of the hours of the day.
- 2) Generate a plot showing how the data varies with temperature.
- 3) After updating the Excel file, I will upload it to Drive for collaborative access.