



Transformation progress of farmer-preferred genotypes

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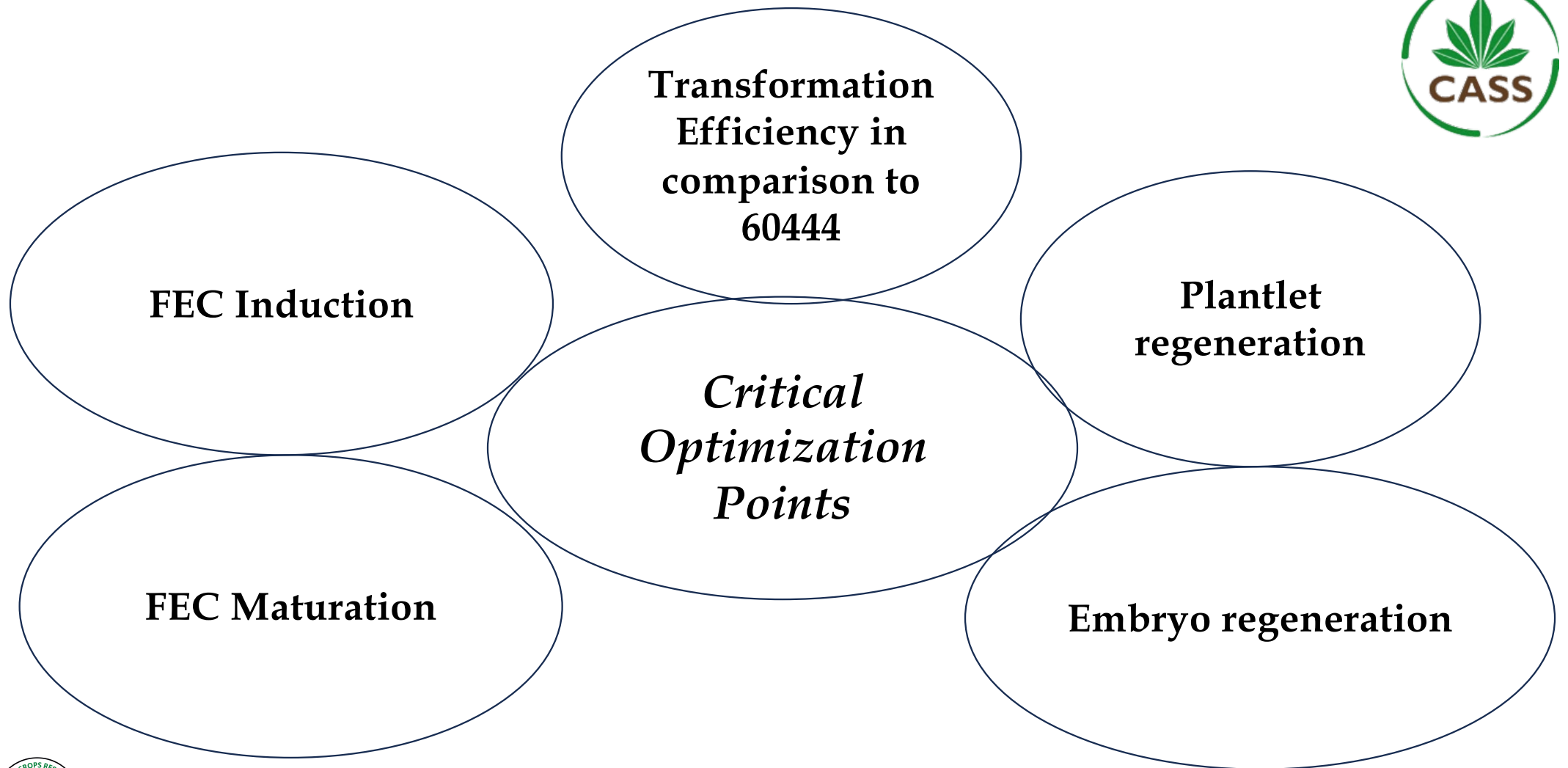
Our Target



Further protocol optimization and first block of transformation attempts with farmer-preferred genotype(s) with CASS constructs including line selection and greenhouse testing

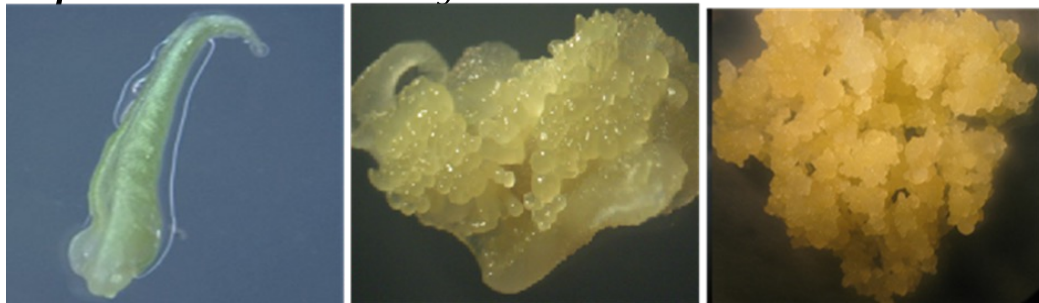


Over 35 mother plants



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Optimization of FEC induction & maturation



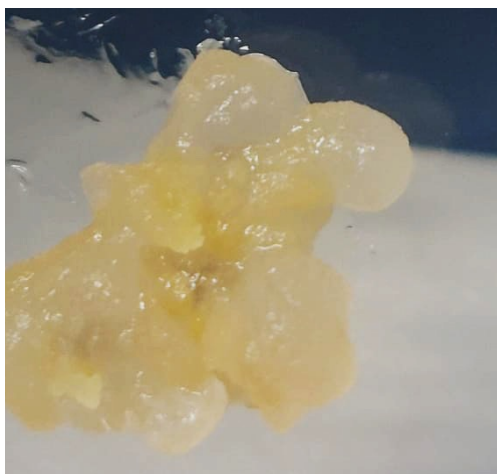
FEC Induction Cycle on Gresshoff & Doy (GD) medium spans from GD1 - GD6



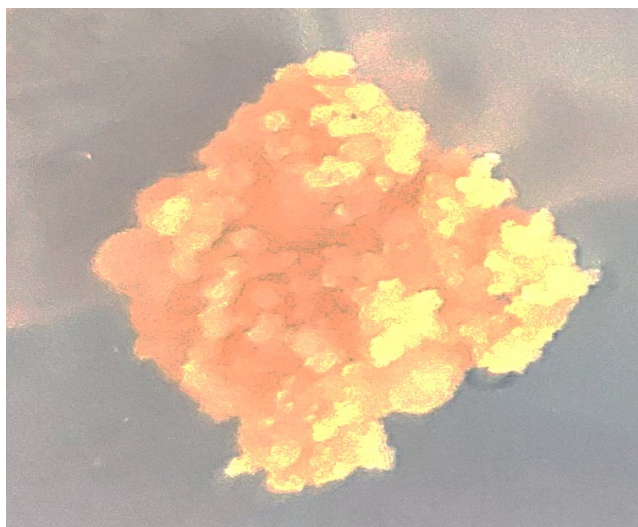
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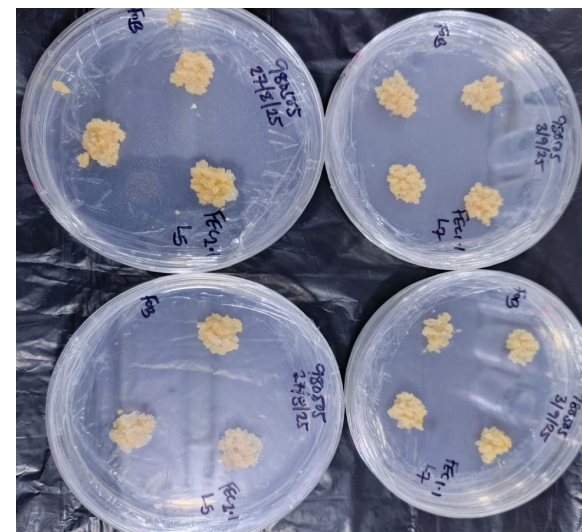
FEC Induction pipeline



Previously repeated transfer of tissues up to cycle 6 yields massive non-friable embryogenic structure



Protocol modification yielded quality FEC at early GD cycles in number of genotypes

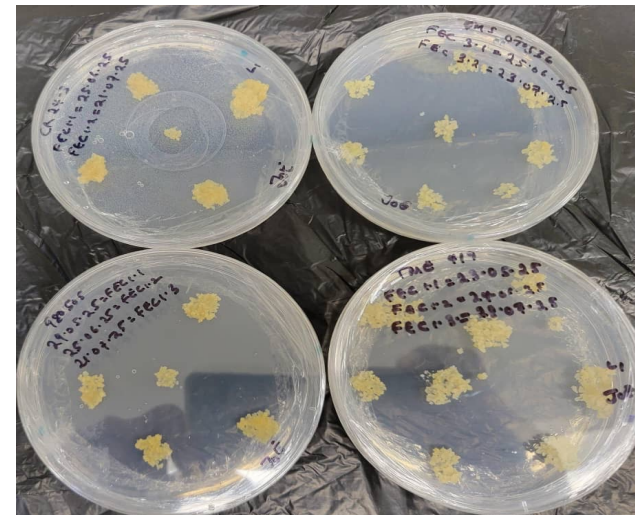
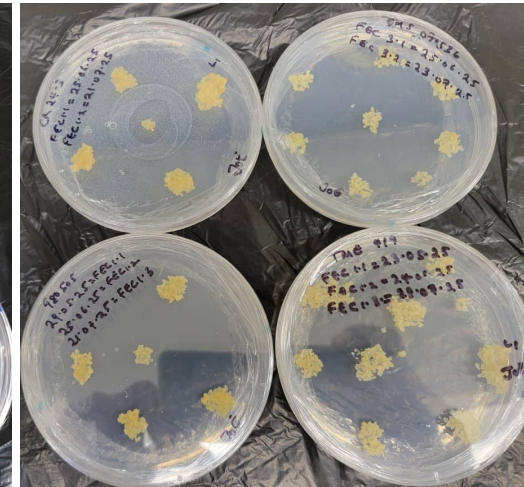
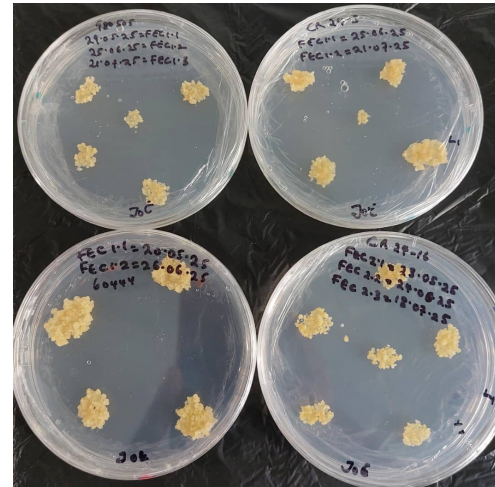
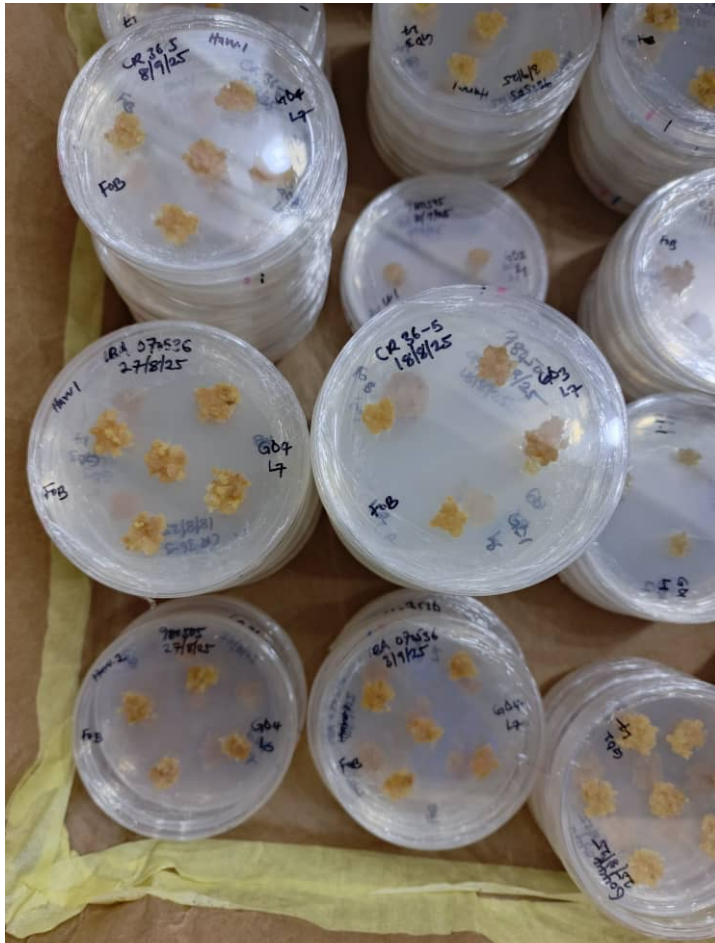


Large volumes of FEC production achieved

FEC production pipeline



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980505

CR 36-5

TME 419

CR 24-16

CR 27-20

IBA 070536

Potential Transformation candidates

- Game changer (Umucass 47)
- Poundable (TME B693)
- Dickson (TMS 980581)
- Obansango -2 (TMS F1343P0022)
- No hunger (Umucass 54)
- Headmaster (Umucass 52)
- Hope
- Renewed Hope (TMS 14F1036P007)



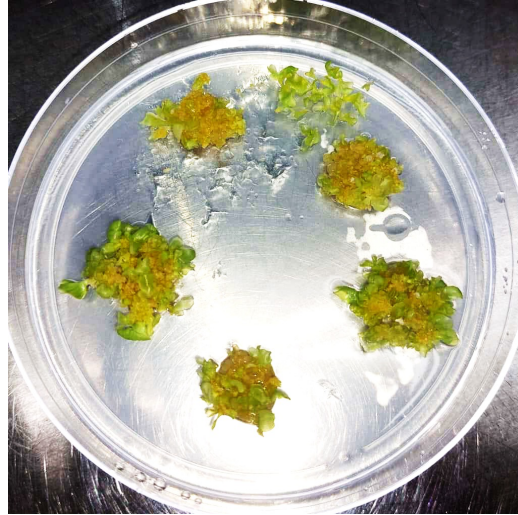
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Optimization of Embryo regeneration



CR 24-16



CR IBA 070536



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Optimization of plantlet regeneration



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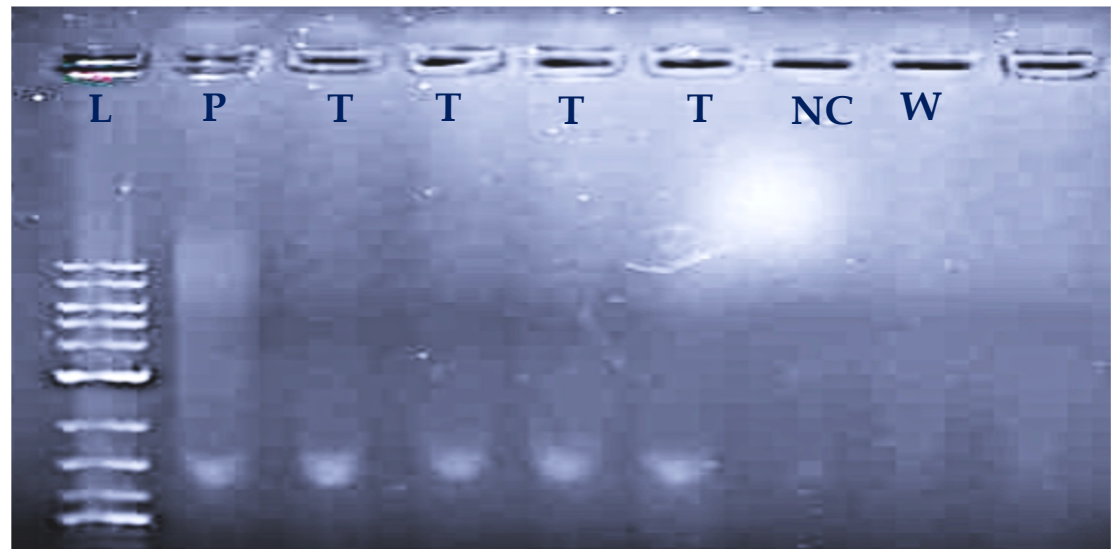
Transformation experiments



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- Over 14 transformation lines in different cultivars have been created from January till date and at different transformation stages
- Molecular analysis is on-going, four of the putative events showed amplification compared to the plasmid control
- The amplicon will be sent for sequencing for forward confirmation



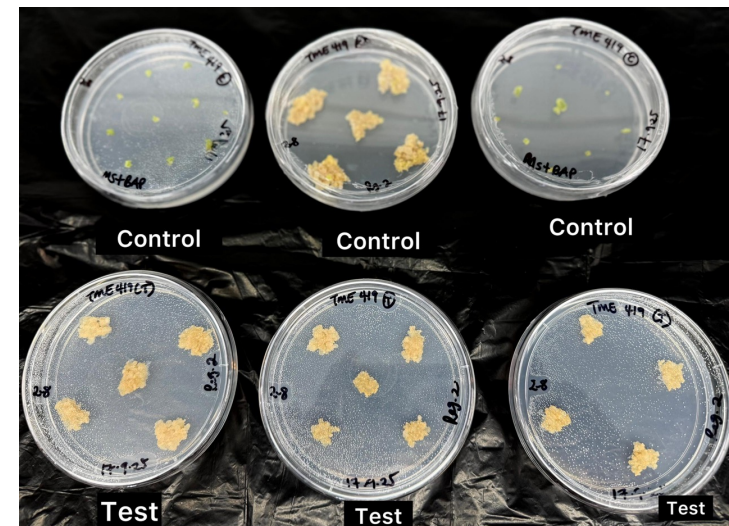
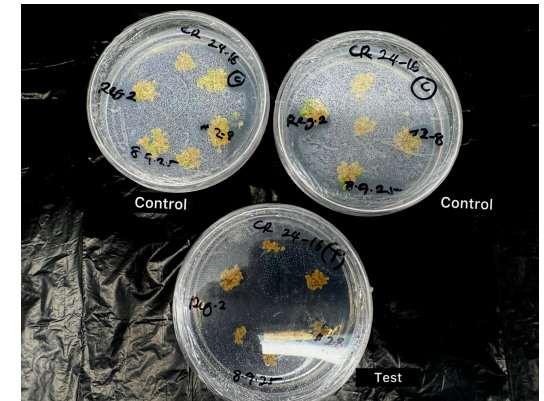
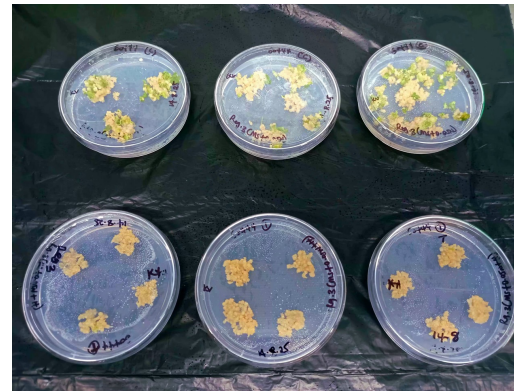
More Transformation experiments ongoing



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Line No	Date	Cultivars	Transformation stage
1	1/8/25	TMS 60444	Subcultured on rooting media
2	6/25/25	IBA 070536, CR 36-5	IBA 070536 on Reg. 3 media; CR 36-5(control) on Reg. 3 media + 20 cotyledons on MS+ BAP 1mM
3	7/9/25	CR 36-5, 60444	on Reg. 2 media
4	7/18/25	CR 24-16	on Reg. 2 media; 16 cotyledons from control on MS + BAP 1mM
5	7/21/25	TME 419	on Reg. 2 media
6	7/25/25	IBA 070536	no Reg. 2 media
7	8/7/25	CR 24-16, 980505	on Reg. 1 media
8	8/13/25	980505, CR 24-3, IBA 070536	on Reg. 1 media
9	8/20/25	980505, IBA 070536, CR 36-5, CR27-20	on Sel. Media
10	8/27/25	CR 36-5, 980505	on Sel. Media



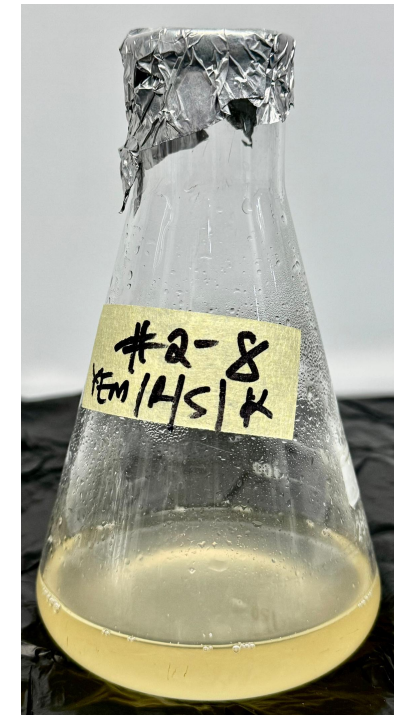
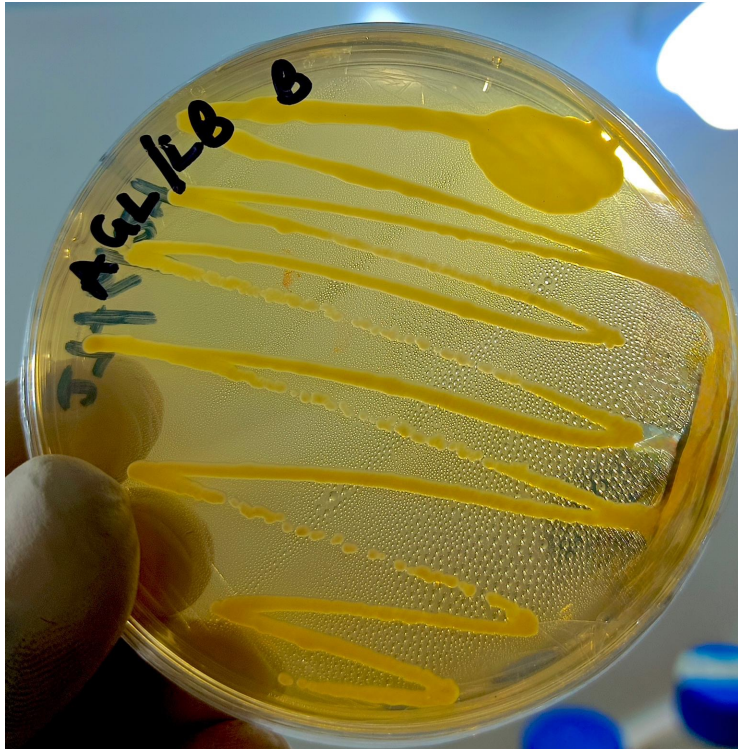
Experiences 1 - Periodical Agro overgrowth



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- Periodically Agro overgrowth on our transformation experiment



Experiences 2 – Hygromycin concentration



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- Recommended Hygromycin concentrations 5 mg/L to 10 mg/L and then 20 mg/L might be encouraging survival of escapes
- Experiments to determine effective hygromycin concentration was established





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**Thank You
for
Listening**