Summer shutdown and fall startup/summer system check – short list.

When you shut your system down.

1) Check all equipment in a mechanical sense – is it all in one piece, looking as intended – good hard look is very useful – take your time, if you check storages often enough you will notice things out of place
2) Turn any VFD's off – lightning, power spikes can damage them, also there is some wear and tear when they sit and idle thru the spring/summer
3) Turn water off and drain climacell/humidifiers – clean tanks when they get dry, check for water leaks – this will extend it life and
4) Control panels can be left on – you can switch off any devices tied to a controller so it may not turn on and waste power
5) Have storage bay inspected as soon as the bay is empty – check booster fans, main fans physically, run them to see if they operate correctly, listen for an excessive noise – it may be a sign of bad fan motor bearings (bay are often used to store empty bins – f that is the case early check is even more important since there will be no access to it till empty for refill), belted fans will run at different blade speeds if belts loose – easy to compare looking at them. Run refrigeration unit coolers if present in storage – some of the fans may not be operating – they may backspin and hard to see if operating correctly - you may lift someone up to the unit to feel if the air is pushing forward out of each fan equally – this is the ultimate test. **Easier access to equipment will save time to service/repair/replace.**
6) Please make sure doors, louvers, dampers are all secured and closed
7) Test intake door or louver motors to see if they all are operational
8) You can turn refrigeration power off but when repowered unit has to have compressor start circuit disabled so it won't start right away– refrigerant may fill out compressor crankcase – usually crankcase is heated when compressor is off to make sure that does not happen, to restart compressor 3-5 hours maybe needed to boil off refrigerant from its housing
9) It is a good idea to run any fans/pumps every month or two to assure that rust does not seize fan/pump bearings just for couple of minutes, it can save you some motor replacements, morning temp changes can create a lot of condensation inside motor housings/bearings
10) Try to dry out the storage and any areas that hold moisture to keep rust out
11) Note after any heavier rain can wet floor areas – sign of a roof leak – roofs shift and break fasteners holding them down, that is where most leaks come from, broken screws need to be caulked, roof refastened, if you up on the roof, rain gutters should be checked/cleaned if needed

Tip: Your service provider likely has more time to take care of any issues early in the year (spring/summer), today's inventories for spare parts are often low or none (made to order on some items, second party orders, long shipping times) – thanks to inventory tax introduced years ago most companies keep low item inventory so it takes time to get it, this is a continually growing issue (especially with the current slow logistics situation due to Covid-19 pandemic)

Suggestion: As you are going to a low spending mode thru the summer months awaiting an income from your new crop ask your service company to delay the billing for their services for a mutually agreeable period of time or pay part now rest later – both sides win.

Summer/fall check/start up.

1) Have your service company go thru storage controls/ ventilation equipment as part of preseason – it will save you money
2) Compete any housekeeping if not done thru the summer
3) Refill water tanks for humidification if any
4) Setup control system for fall operation, adjust control settings/alarms
5) Test operation of the fans, louvers and humidifiers (even if you had service company check it), suggested timing is 1 week prior to storage fill start up so any issues can be addressed in time
6) Good idea is to test refrigeration as well, run it for few hours
7) Run system for at least one to two days before filling the storage to catch any issues with the system – if issue there is still time to get the things serviced

Tip: Ask you service company -what can you do in house, they will show and train you on what you can do yourself, you can purchase the parts needed from them, it will save you money if you have reliable help to do it or can do it yourself.

Tip - For larger operations: essential parts stock – this is usually big time and money saver – having essential parts stock reduces service returns if problem found and part is not available or the part can be replaced by a farm maintenance crew at will. There are times that it is crucial to have a storage fully operational 24/7. The essential parts stock model is working well for many farms especially in remote areas. Parts are often cost far less than the labor to replace.

Tip – when you have your service tech come by to correct a problem try to check thru other systems or have him take a quick look thru while he is there, good techs need just few minutes to spot a problem/issue and that can be fixed while he is on site – this approach is beneficial to both service and the grower- it saves time and money.

Big tip – problems usually come in pairs, one issue maybe tied to another or it is a part of an underlying problem, some issues are complicated – both grower/tech need to take their time to make sure all issues have been addressed. Look for less obvious, take you time.

<u>Bottom line – preventive maintenance is a good money saving practice.</u>