GROWING AGRICULTURE *together*

Name: _____

AG TECHNOLOGY

Ag Technology, also known as Precision Ag, helps farmers make smart, efficient, and responsible decisions about how and when they plant, grow, irrigate, harvest and transport crops. Read about the newer ag technologies below and the efficiencies that have helped farmers on their operation. Then on the next page, match the ag technology to the efficiency.

AG TECHNOLOGY & EFFICIENCIES

VARIABLE RATE IRRIGATION

- Less erosion and better water infiltration rate on side hills by reducing water runoff
- Less water ponding in depressions due to speeding up the pivot through the low areas

VARIABLE RATE SEEDING

- Increased corn yield by seven bushels per acre by increasing the plant population in historically high yield potential areas of the field
- Increased soybean plant height and yield in poor areas of the field by increasing the soybean plant population on knobs, hilltops, and high pH areas

VARIABLE RATE NITROGEN

- Reduced Nitrogen loss in low areas of the field where water ponding happens by applying less overall nitrogen in these areas
- Increased corn yield by 12 bushels per acre by applying more nitrogen in historically high yielding areas of the field

AQUASYSTEMS MOISTURE PROBE

- Protecting our most important natural resource by reducing the number of irrigation passes throughout the season by knowing plant available water and crop root depth

AG LEADER AUTOSTEER

- Farmer was able to spray 80 additional acres today and run over less corn due to reduced operator fatigue and accuracy

RAVEN OMNIDRIVE

- While you are at school functions during harvest, your Dad was able to continue harvesting without hiring an additional employee to drive the grain cart

PRECISION PLANTING HYDRAULIC DOWNFORCE

- Increased corn yield by 4.7 bushels per acre by achieving uniform plant emergence in a no-till field with varying areas of compaction

PRECISION PLANTING ROWFLOW PLANTER CONTROL

- Saved 2 bags of seed corn by not double planting point rows and end rows in odd shaped (not square) fields
- Increased yield by 2 bushels per acre on end rows and point rows by not having too high of plant population due to planter overlap

AG LEADER DIRECTCOMMAND SPRAYER SECTION CONTROL

- Reduced herbicide cost in contour rowed field by not double applying herbicide on point rows and around terraces
- Reduce the potential of crop damage from herbicides and fertilizer by not overlapping sprayer patterns

JOHN DEERE SEE & SPRAY

- Reduced chemical application by 40% by spraying specific weeds only and not broadcasting the entire field

TARANIS DRONE SCOUTING

- After a weather event, through the use of artificial intelligence, you were able to see the plant population across the entire field, export a zone map of the poor areas, and variable rate plant only the areas that needed replanting
- Through images and imagery, you are able to tell what parts of your field's plant health is trending negatively, so you know where to direct your scouting

RANTIZO DRONE SPRAYING

- You were able to apply herbicide to a small patch of weeds in the middle of your soybean field without driving over any crop, limiting yield loss

Disclaimer: These are examples only and not actual savings or yield increases.

CVA

Name: _____

MATCH

Match the ag technology to the efficiency by writing the correct letter on the line.

1. _____ Taranis Drone Scouting

2. _____ Variable Rate Seeding

3. _____ John Deere See & Spray

4. _____ Ag Leader AutoSteer

5. _____ Raven OmniDrive

6. _____ Precision Planting Hydraulic Downforce

7. _____ Variable Rate Irrigation

8. _____ Precision Planting RowFlow Planter Control

9. _____ Variable Rate Nitrogen

10. _____ Ag Leader DirectCommand Sprayer Section Control

11. _____ Rantizo Drone Spraying

12. _____ AquaSystems Moisture Probe

A) Reduced operator fatigue and increases accuracy by automatically steering

B) Changes speed of pivot to help utilize water better

C) Reduces chemical application by only spraying weeds and not entire field

D) Tracks plant's available water and root depth

E) Aids in uniform plant emergence

F) Allows for herbicide application without having to drive over any crops

G) Increases bushels by applying different amount of nitrogen based on field needs in different areas

H) Stops the double applying of herbicide on point rows and around terraces

I) Permits you to scout entire fields to see how each zone is performing without having to walk through field

J) Prevents the double planting of point rows and end rows in odd shaped (not square) fields

K) Driver-less grain cart allowing for one less employee at harvest

L) Increases bushels by planting different amount of seed based on field potential in different areas

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MATCH
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1. __**I**__ Taranis Drone Scouting

2. __**L**__ Variable Rate Seeding

3. __**C**__ John Deere See & Spray

4. __**A**__ Ag Leader AutoSteer

5. __**K**__ Raven OmniDrive

6. __**E**__ Precision Planting Hydraulic Downforce

7. __**B**__ Variable Rate Irrigation

8. __**J**__ Precision Planting RowFlow Planter Control

9. __**G**__ Variable Rate Nitrogen

10. __**H**__ Ag Leader DirectCommand Sprayer Section Control

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